INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: July 3, 2012

RE: Tate & Lyle Ingredients Americas, LLC / 157-27029-00003

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

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(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNTVOP.dot12/3/07

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Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Tate & Lyle Ingredients Americas LLC
2245 North Sagamore Parkway
Lafayette, Indiana 47904

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T157-27029-00003	
Issued by: Jenny Acker, Section Chief Permits Branch Office of Air Quality	Issuance Date: July 3, 2012 Expiration Date: July 3, 2017

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Certification
Emergency Occurrence Report
Semi-Annual Natural Gas Fired Boiler Certification
Part 70 Usage Report
Quarterly Report
Quarterly Deviation and Compliance Monitoring Report

Attachment A: 40 CFR 60, Subpart Dc: New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units
Attachment B: 40 CFR 60, Subpart Y: New Source Performance Standards for Coal Preparation Plants
Attachment C: 40 CFR 63, Subpart EEEE: National Emission Standards for Hazardous Air Pollutants - Organic Liquids Distribution: Requirements
Attachment D: 40 CFR 63, Subpart ZZZZ: Stationary Reciprocating Internal Combustion Engines NESHAP

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary wet corn milling plant.

Source Address:	2245 North Sagamore Parkway, Lafayette, IN 47904
General Source Phone Number:	(765) 448-7123
SIC Code:	2046
County Location:	Tippecanoe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, under Section 112 of the Clean Air Act Nested Source with fossil fuel fired boilers totaling more than two hundred fifty million (250,000,000) British thermal units per hour heat input, as 1 of 28 Source Categories, within a non-listed source

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]

This stationary source consists of the following emission units and pollution control devices:

(a) Corn Receiving and Handling Operations, consisting of:

(1) One (1) Railcar Corn Dump Hopper, identified as 12V101, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(2) One (1) Truck Corn Dump Hopper, identified as 12V102, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(6) Five (5) Corn Storage Silos, identified as 13V1, 13V2, 13V3, 13V4 and 13V5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(11) One (1) Bucket Elevator from Corn Cleaner to Steeps, identified as 14U9, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(b) Wet Milling Operations, consisting of:

(1) Twelve (12) Corn Steep Tanks, identified as 14V3 through 14V14, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(2) Two (2) Corn Steep Tanks, identified as 14V15 and 14V16, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(3) Three (3) Corn Steep Tanks, identified as 14V400, 14V401, and 14V402, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) High DS Starch Filter, identified as 18F510, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(5) Three (3) Germ Washing Screens, identified as 15J101, 15J200, and 15J201, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(6) One (1) Light Steepwater Receiver Tank, identified as 14V19, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(7) One (1) High DS Starch Tank, identified as 18V520, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(8) One (1) High DS Starch Wash Water Tank, identified as 18V522, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(9) Seven (7) Grit Starch Separator Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(10) Six (6) Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(11) One (1) First Stage Germ Wash Screen, identified as 15J100, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(12) One (1) Second Stage Germ Wash Screen, identified as 15J99, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(13) One (1) Second Pass Germ Feed Tank, identified as 15V25, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(14) One (1) Grit Starch Feed Tank, identified as 15V26, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(15) One (1) Fiber Supply Tank, identified as 21V33, constructed in 2000, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(16) One (1) Steeped Corn Surge Hopper, identified as 15V21, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(17) One (1) Steeped Corn Separator, identified as 15J5A, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(18) One (1) First Pass Germ Feed Tank, identified as 15V23, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(19) One (1) Second Stage Germ Wash Screen, identified as 15J53, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(20) Two (2) Second Grind Dewatering Screens, identified as 15J14 and 15J24, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(21) One (1) First Grind Receiver Tank, identified as 15V22, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(22) One (1) Second Grind Receiver Tank, identified as 15V24, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(23) One (1) Third Grind Discharge Tank, identified as 15V27, constructed in 1995, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(24) One (1) Clamshell Wash Water Tank, identified as 15V2, constructed in 1991, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(25) One (1) Clamshell Starch Receiver Tank, identified as 15V42, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(26) One (1) Steeped Corn Tank, identified as 14V17, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(27) One (1) Germ Water Tank, identified as 15V139, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(28) Thirty-six (36) Fiber Wash Screens, identified as 1st Stage through 5th Stage Fiber Wash Screens, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(29) One (1) Dent Starch Slurry Storage Tank, identified as 15V43, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(30) One (1) Steepwater Head Tank, identified as 14V18, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(31) One (1) Mill Acid Tank, identified as 14V96, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(32) One (1) Steep Acid Tank, identified as 14V20, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Wash Box, identified as 15V19, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(34) Five (5) Fiber Wash Receiver Tanks, identified as 15V110 through 15V114, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(35) One (1) Process Water Tank, identified as 15V30, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(36) One (1) Primary Wash Water Tank, identified as 15V41, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(37) One (1) Wash Water Surge Tank, identified as 15V38, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(38) One (1) Primary Feed Tank, identified as 15V34, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(39) One (1) Primary Underflow Tank, identified as 15V35, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(40) One (1) Gluten Thickener Feed Tank, identified as 15V36, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(41) One (1) Heavy Gluten Tank, identified as 15V37, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(42) One (1) Clarifier Feed Tank, identified as 15V40, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(43) One (1) MST Feed Tank, identified as 15V31, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(44) One (1) Gluten Vacuum Filter, identified as 21F6, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(45) One (1) Gluten Vacuum Filter Pump, identified as 21C6, constructed in 2006, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(46) One (1) Gluten Vacuum Filter, identified as 21F7, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(47) One (1) Gluten Vacuum Filter Pump, identified as 21C7, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(48) One (1) Gluten Vacuum Filter, identified as 21F8, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(49) One (1) Gluten Vacuum Filter Pump, identified as 21C8, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(50) One (1) Gluten Vacuum Filter, identified as 21F9, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(51) One (1) Gluten Vacuum Filter Pump, identified as 21C9, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Gluten Vacuum Filter, identified as 21F10, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(53) One (1) Gluten Vacuum Filter Pump, identified as 21C10, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(54) One (1) Fiber Dewatering Screen, identified as 21F100, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(55) One (1) Fiber Dewatering Screen, identified as 21F101, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(56) One (1) Germ Scrubber Water Tank, identified as 21V130, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(57) One (1) Gluten Filter Bowl Drain Tank, identified as 21V159, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(58) One (1) Gluten Filter Wash Bar Trough Drain Tank, identified as 21V59, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(59) One (1) Fiber Filtrate Tank, identified as 21V58, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(60) One (1) Heavy Steepwater Tank, identified as 21V56, constructed in 1966, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(61) One (1) Monitor Tank, identified as 15V210, constructed in 1990, with emissions controlled by alkaline scrubber 15F401, and exhausting to stack 17.

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(3) Two (2) Natural Gas Fired Thermal Oxidation Units, identified as 48F201 and 48F202, constructed in 2006, with a heat input capacity of 5 million Btu per hour, each.

(4) One (1) Corn Cleanings Receiver, identified as 21F304, loaded pneumatically via Corn Cleanings Pneumatic Transfer, identified as 08C304, constructed in 2007, with emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202; before exhausting to stack 17.

(5) One (1) RST Feed Dryer, identified as 21D301, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F301, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(7) One (1) 48D101 Dryer Air Conveying Line, identified as AC8, constructed in 1966, with emissions controlled by integral product collector/baghouse 21F36, and exhausting to stack 145.

(8) One (1) RST Germ Dryer, identified as 21D401, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F401, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(9) Two (2) Water Tube Germ Cooler Rotary Airlock Valves, identified as 21D3 (formerly Germ Dryer 21D3), loaded pneumatically via Germ Pneumatic Transfer 21C404 and Germ Cooler Cyclone 21F404, constructed in 2007, with pneumatic transfer blowback air controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(10) One (1) Feed Cooler, identified as 21D8 (formerly Meal Dryer 21D8), constructed in 1966 and modified in 2007. PM and PM_{10} emissions are controlled by product collector/cyclone 21F310, then PM and PM_{10} emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501, and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(11) One (1) Feed Mill, identified as 21G351, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(12) One (1) Feed Mill, identified as 21G352, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(13) One (1) Feed Milling Loadout Conveyor, identified as 21U314, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(14) One (1) Feed Loadout Hopper, identified as 21V125, permitted in 2005, with emissions aspirated to the inlet of Feed Cooler 21D8 to be used as cooling air.

(15) One (1) Feed Storage Bin, identified as 8V121, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F1, and exhausting to stack 110.

(16) One (1) Feed Storage Bin, identified as 8V122, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F2, and exhausting to stack 111.

(17) One (1) Feed Storage Bin, identified as 8V123, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F3, and exhausting to stack 112.

(18) One (1) Feed Storage Bin, identified as 8V124, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F4, and exhausting to stack 113.

(19) One (1) Meal Storage Bin, identified as 8V62, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F62, and exhausting to stack 114.

(20) One (1) Meal Storage Bin, identified as 8V63, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F63, and exhausting to stack 115.

(21) One (1) Germ Storage Bin, identified as 8V53, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F53, and exhausting to stack 116.

(22) One (1) Germ Storage Bin, identified as 8V54, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F54, and exhausting to stack 117.

(23) Two (2) Co-Product Loadout Conveyors, identified as 8U39 and 8U41, constructed in 1966, with emissions aspirated to Meal Storage Bin 8V62, and controlled by bin vent 8F62, and exhausting to stack 114.

(24) Two (2) Air Conveying Lines to Loadout, identified as AC23 and AC24, constructed in 1966, with emissions controlled by integral product receiver/baghouse 12F39, and exhausting to stack 125.

(25) One (1) Rail Loadout Conveyor, identified as 12U11, constructed in 1991, with emissions controlled by baghouse 12F40, and exhausting to stack 3.

(d) Syrup Refining Operations, consisting of:

(1) One (1) HCl Storage Tank (Concentrated), identified as 9V101, constructed in 1995, with emissions controlled by scrubber 9F102, and exhausting to stack 156.

(2) One (1) Acid Reject Flash Chamber, identified as 18V312, constructed in 1966, with emissions uncontrolled, and exhausting to stack 320.

(3) One (1) Jet Conversion Flash Chamber, identified as 18V413, constructed in 1966 and approved in 2011 for the production of OS starches, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(4) One (1) Soda Ash Storage Tank, identified as 9V144, loaded pneumatically via Soda Ash Unloading System, identified as 9C40, constructed in 1966, with emissions controlled by eductor/scrubber 9E1, and exhausting to stack 149.

(5) One (1) Filteraid Storage Silo, identified as 9V31, loaded pneumatically via Filteraid Unloading System, identified as 9C31, constructed in 1966, with emissions controlled by bin vent 9F31, and exhausting to stack 123.

(6) One (1) Filteraid Conveying System to Precoat Makeup Tank, identified as 09C27 and 18C18, constructed in 1966, with emissions controlled by integral product receiver/baghouse 18F118 and air washer 18F218, and exhausting to stack 129.

(7) One (1) Powdered Carbon Storage Silo, identified as 9V30, loaded pneumatically via Powdered Carbon Unloading System, identified as 9C30, constructed in 1966, with emissions controlled by cyclone 09F36, baghouse 09F30, and air washer 09F1, and exhausting to stack 124.

(e) Starch Modification Operations, consisting of:

(1) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V115, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 11.

(2) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V116, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 12.

(3) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V222, constructed in 1973 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 31.

(4) One (1) PO Reactor, identified as 45V223, constructed in 1973, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(5) One (1) PO Reactor, identified as 45V240, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(6) One (1) PO Reactor, identified as 45V241, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(7) One (1) PO Reactor, identified as 45V242, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(8) One (1) PO Reactor, identified as 45V243, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(9) One (1) PO Reactor, identified as 45V246, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(10) One (1) PO Reactor, identified as 45V247, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(11) One (1) PO Reactor, identified as 45V248, constructed in 1991, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(12) One (1) PO Reactor, identified as 45V270, constructed in 1995, with emissions controlled by scrubber 45F212, exhausting to stack 50.

(13) One (1) PO Reactor, identified as 45V271, constructed in 1995, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(14) One (1) PO Reactor, identified as 45V280, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(15) One (1) PO Reactor, identified as 45V281, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(16) Five (5) Propylated Starch Reactors, identified as 45V292, 45V293, 45V294, 45V295, and 45V296, constructed in 2007, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(17) One (1) Oxidized Starch Reactor, identified as 18V173, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(18) One (1) Oxidized Starch Reactor, identified as 18V178, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(19) One (1) Oxidized Starch Reactor, identified as 18V180, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(20) One (1) Oxidized Starch Reactor, identified as 18V174, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(21) One (1) Oxidized Starch Reactor, identified as 18V175, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(22) One (1) Oxidized Starch Reactor, identified as 18V179, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(23) One (1) Tri-Polyphosphate Storage Bin, identified as 9V103, constructed in 1988, with emissions controlled by bin vent 9F103, and exhausting to stack 68.

(24) One (1) Sodium Sulfate Storage Bin, identified as 45V250, loaded pneumatically via Sodium Sulfate Unloading System, identified as 09C200 and 09F200, constructed in 1985, with emissions controlled by two bin vents, 45F25 and 45F25A, and exhausting to stack 64.

(25) One (1) Flash 1 Filtrate Reineveldt Centrifuge, identified as 40Y1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(26) One (1) Flash 1 Slurry Hold Tank, identified as 40V1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(27) One (1) Flash 1 Starch Hold Tank, identified as 40V50, constructed in 1996, with emissions uncontrolled, and exhausting to stack 289.

(28) One (1) Dryer Starch Feed Conveyor/Flash 1 Paddle Mixer, identified as 40U2, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(29) Two (2) Flash 2 Slurry Hold Tanks, identified as 40V20 and 40V21, constructed in 1990, with emissions uncontrolled, and exhausting to stack 80.

(30) Three (3) Flash 2 Larox Filters, identified as 40F51, 40F52, and 40F53, constructed in 1995, with emissions uncontrolled, and exhausting to stack 249.

(31) One (1) Flash 2 Larox Filter, identified as 40F54, constructed in 2002, with emissions uncontrolled, and exhausting to stack 249.

(32) One (1) Flash 2 Air Release Tank, identified as 40V15, constructed in 1995, with emissions uncontrolled, and exhausting to stack 250.

(33) One (1) Flash 2 Air Release Tank, identified as 40V16, constructed in 2002, with emissions uncontrolled, exhausting to stack 251.

(34) One (1) Dryer Starch Feed Conveyor/Flash 2 Paddle Mixer, identified as 40U23, constructed in 1995, with emissions uncontrolled, exhausting to stack 249.

(35) Two (2) Flash 3 Slurry Hold Tanks, identified as 43V71 and 43V72, constructed in 1995, with emissions uncontrolled, and exhausting to stack 273.

(36) Three (3) Flash 3 Larox Filters, identified as 43F71, 43F72, and 43F73, constructed in 1995, with emissions uncontrolled, and exhausting to stack 260.

(37) One (1) Flash 3 Larox Air Release Tank, identified as 43V85, constructed in 1995, with emissions uncontrolled, and exhausting to stack 261.

(38) One (1) Flash 3 Larox Air Release Tank, identified as 43V86, constructed in 1995, with emissions uncontrolled, and exhausting to stack 318.

(39) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(40) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(41) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(42) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(43) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(44) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(45) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(f) Starch Reaction Operations, consisting of:

(1) One (1) Starch Feed Bin, identified as 33V1, constructed in 1995, with emissions controlled by bin vent 33F1, and exhausting via vent 236 to stack 355.

(2) One (1) Starch Feed Bin, identified as 33V2, constructed in 1995, with emissions controlled by bin vent 33F2, and exhausting via vent 237 to stack 355.

(3) One (1) Catalyst Bin, identified as 33V5, constructed in 1995, with emissions controlled by bin vent 33F5, and exhausting to stack 239.

(4) One (1) Low Pressure Dry Starch Reactor, identified as 33R1, constructed in 1995, with emissions controlled by baghouses 33F101 and 33F102, and exhausting to stack 238.

(5) One (1) High Pressure Dry Starch Reactor, identified as 33R2, constructed in 1995, with emissions controlled by baghouses 33F201 and 33F202, and exhausting to stack 240.

(6) One (1) Reactor Surge Bin, identified as 50V61, loaded pneumatically via Pneumatic Conveyor, identified as 33C8, constructed in 1997, with emissions controlled by bin vent 50F161, and exhausting via vent 241 to stack 361.

(7) One (1) Reactor Surge Bin, identified as 50V62, loaded pneumatically via Pneumatic Conveyor, identified as 33C4, constructed in 1997, with emissions controlled by bin vent 50F162, and exhausting via vent 242 to stack 361.

(8) One (1) Dry Starch Product Screening Receiver, identified as 50F45, constructed in 1995, with emissions controlled by integral product receiver/baghouse 50F45, and exhausting via vent 262 to stack 355.

(9) One (1) Dry Starch Product Screening Receiver, identified as 50F48, constructed in 1997, with emissions controlled by integral product receiver/baghouse 50F48, and exhausting via vent 243 to stack 355.

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(11) One (1) Dry Starch Blend Bin, identified as 33V42, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F42, and exhausting via vent 244 to stack 355.

(12) One (1) Dry Starch Blend Bin, identified as 33V43, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F43, and exhausting via vent 245 to stack 355.

(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.

(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

(g) Starch Drying and Handling Operations, consisting of:

(1) One (1) Adipic Acid Storage Bin, identified as 43V90, loaded pneumatically via truck unloading, constructed in 1996, with emissions controlled by bin vent 43F90, and exhausting to stack 274.

(2) One (1) Starch Flash Dryer #1, identified as 40D1, constructed in 1986, with a heat input capacity of 14.4 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F1 and 40F2 and scrubber 40F3, and exhausting to stack 69.

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7, and exhausting to stack 70.

(4) One (1) Pneumatic Conveying to Mill Feed Receiver, identified as 25F1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F1, and exhausting to stack 147.

(5) One (1) Belt Dryer Mill, identified as 25G1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F2, and exhausting to stack 146.

(6) One (1) Starch Storage Bin #8, identified as 7V8, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F8, and exhausting to stack 71.

(7) One (1) Starch Storage Bin #9, identified as 7V9, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F9, and exhausting to stack 72.

(8) One (1) Starch Flash Dryer #2, identified as 40D20, constructed in 1990 and modified in 1991, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F20 through 40F25 and scrubber 40F26, and exhausting to stack 73.

(9) One (1) Grinder Feed Collector, identified as 40F27, constructed in 1990, and exhausting to the intake of bins 7V20, 7V21, 7V22 and 7V23.

(10) One (1) Starch Grinder/Mill #1, identified as 40G20, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F28, and exhausting via vent 286 to stack 360.

(11) One (1) Starch Grinder/Mill #2, identified as 40G21, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F29, and exhausting via vent 287 to stack 360.

(12) One (1) Starch Product Bin #20, identified as 7V20, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F20, and exhausting to stack 76.

(13) One (1) Starch Product Bin #21, identified as 7V21, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F21, and exhausting to stack 77.

(14) One (1) Starch Product Bin #22, identified as 7V22, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F22, and exhausting to stack 78.

(15) One (1) Starch Bin #33, identified as 7V23, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1995, with emissions controlled by bin vent 7F33, and exhausting to stack 267.

(16) One (1) Starch Flash Dryer #3, identified as 43D71, constructed in 1995, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 43F81 through 43F86 and scrubber 43F80, and exhausting to stack 265.

(17) One (1) Flash #3 Mill, identified as 40G88, constructed in 1996, with emissions controlled by integral product receiver/baghouse 40F88, and exhausting to stack 266.

(18) One (1) Starch Bin #34, identified as 7V34, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F34, and exhausting to stack 268.

(19) One (1) Starch Bin #35, identified as 7V35, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F35, and exhausting to stack 269.

(20) One (1) Starch Blend Bin #91, identified as 7V91, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F91, and exhausting to stack 345.

(21) One (1) Starch Blend Bin #92, identified as 7V92, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F92, and exhausting to stack 346.

(22) One (1) Starch Roll Dryer #1, identified as 41D1, constructed in 1986, with emissions uncontrolled, and exhausting to stack 91.

(23) One (1) Starch Roll Dryer #2, identified as 41D2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 92.

(24) One (1) Starch Roll Dryer #3, identified as 41D3, constructed in 1986, with emissions uncontrolled, and exhausting to stack 93.

(25) One (1) Starch Roll Dryer #4, identified as 41D4, constructed in 1993, with emissions uncontrolled, and exhausting to stack 94.

(26) One (1) Starch Roll Dryer #5, identified as 41D5, constructed in 1995, with emissions uncontrolled, and exhausting to stack 232.

(27) One (1) Starch Roll Dryer #6, identified as 41D6, constructed in 1995, with emissions uncontrolled, and exhausting to stack 233.

(28) One (1) Starch Roll Dryer #7, identified as 41D7, constructed in 1997, with emissions uncontrolled, and exhausting to stack 234.

(29) One (1) Starch Roll Dryer #8, identified as 41D8, constructed in 2000, with emissions uncontrolled, and exhausting to stack 235.

(30) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F200, constructed in 1986, with emissions controlled by product receiver/baghouse 41F200, and exhausting to the intake of mill 41G200.

(31) One (1) Roll Dryer Mill, identified as 41G200, constructed in 1986, with emissions controlled by integral product receiver/baghouse 41F210, and exhausting via vent 96 to stack 355.

(32) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F201, constructed in 1993, with emissions controlled by product receiver/baghouse 41F201, and exhausting to the intake of mill 41G201.

(33) One(1) Roll Dryer Mill, identified as 41G201, constructed in 1993, with emissions controlled by integral product receiver/baghouse 41F211, and exhausting via vent 100 to stack 355.

(34) One (1) Product Bin #10, identified as 41V10, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F10, and exhausting to stack 97.

(35) One (1) Product Bin #11, identified as 41V11, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F11, and exhausting to stack 98.

(36) One (1) Bulk Bag Dump Station, identified as 41F13, constructed in 2000, with emissions controlled by bin vent 41F13, and exhausting indoors to stack 344.

(37) One (1) Spray Dryer #1, identified as 30D1, constructed in 1984, with a heat input capacity of 24 MMBtu/hr, with emissions controlled by integral product collector/cyclones 30F7 and 30F8 and product receivers/baghouses 30F2 and 30F3, and exhausting to stack 82.

(38) One (1) Product Transfer to Bins #14 and #15, identified as 41C30, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F14 and 41F15, respectively, and exhausting via vent 85 to stack 355.

(39) One (1) Product Bin #14, identified as 41V14, constructed in 1987, with emissions controlled by bin vent 41F16, and exhausting to stack 87.

(40) One (1) Product Bin #15, identified as 41V15, constructed in 1987, with emissions controlled by bin vent 41F17, and exhausting to stack 88.

(41) One (1) Regular Starch Belt Dryer D4, identified as 16D4, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F26 and 17F78, and exhausting to stack 177.

(42) One (1) Special Starch Belt Dryer D5, identified as 16D5, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F27 and 17F79, and exhausting to stack 177.

(43) One (1) Belts Product Conveying Mill Product to Bins #3, #4, and #5, identified as 7F25, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F25, and exhausting to stack 103.

(44) One (1) Belts Product Conveying Mill Product to Bins #1, #2, and #3, identified as 7F26, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F26, and exhausting to stack 104.

(45) One (1) Product Bin #1, identified as 7V50, constructed in 1966, with emissions controlled by bin vent 7F73, and exhausting to stack 109.

(46) One (1) Product Bin #2, identified as 7V49, constructed in 1966, with emissions controlled by bin vent 7F72, and exhausting to stack 108.

(47) One (1) Product Bin #3, identified as 7V48, constructed in 1966, with emissions controlled by bin vent 7F71, and exhausting to stack 107.

(48) One (1) Product Bin #4, identified as 7V47, constructed in 1966, with emissions controlled by bin vent 7F70, and exhausting to stack 106.

(49) One (1) Product Bin #5, identified as 7V46, constructed in 1966, with emissions controlled by bin vent 7F69, and exhausting to stack 105.

(50) One (1) Spray Agglomeration System, identified as 50D101, constructed in 2001, with a heat input capacity of 6.2 MMBtu/hr, with emissions controlled by integral product collector/cyclones 50F111 and 50F112; and product receiver/baghouse 50F102, and exhausting via vent 349 to stack 361.

(51) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(52) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(53) One (1) Agglomeration Blender Receiver/Baghouse, identified as 50F106, loaded pneumatically via Pneumatic Conveyor, identified as Feed Blower 50C107, constructed in 2001, with emissions controlled by integral product collector/baghouse 50F106, and exhausting via vent 350 to stack 361.

(54) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by integral cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.

(55) One (1) Product Transfer to Milling, identified as 30F13, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F13, and exhausting to the intakes of bins 41V45, 41V46, 41V47, and 33V44.

(56) One (1) Dryer Mill, identified as 30G1, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F15, and exhausting via vent 84 to stack 360.

(57) One (1) Product Bin #45, identified as 41V45, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F45, and exhausting to stack 226.

(58) One (1) Product Bin #46, identified as 41V46, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F46, and exhausting to stack 255.

(59) One (1) Product Bin #47, identified as 41V47, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F47, and exhausting via vent 432.

(60) One (1) Starch Product Bin #44, identified as 33V44, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 1995, with emissions controlled by bin vent 33F44, and exhausting to stack 248.

(61) One (1) Starch Roll Dryer #301, identified as 19D301, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 405A and 405B.

(62) One (1) Starch Roll Dryer #302, identified as 19D302, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 406A and 406B.

(63) One (1) Starch Roll Dryer #303, identified as 19D303, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 407A and 407B.

(64) One (1) Roll Dryer Mill Feed Collector, identified as 19F400, constructed in 2006, with emissions controlled by product collector/cyclone 19F400, and exhausting to the intake of Mill 19G401.

(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by integral product collector/baghouse 19F402, and exhausting to stack 366.

(66) One (1) Product Transfer to Bins #17 and #18, identified as 41C35, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F20 and 41F21, respectively, and exhausting via vent 86 to stack 355.

(67) One (1) Product Bin #17, identified as 41V17, constructed in 1987, with emissions controlled by bin vent 41F22, and exhausting to stack 89.

(68) One (1) Product Bin #18, identified as 41V18, constructed in 1987, with emissions controlled by bin vent 41F23, and exhausting to stack 90.

(h) Starch Packaging and Loadout Operations, consisting of:

(1) One (1) Product Bin #6/House Vacuum System, identified as 17V6, constructed in 1984, with emissions controlled by integral product receiver/cyclone 17F5 and baghouse 17F6, and exhausting via vent 190 to stack 177.

(2) One (1) Reprocess Bag Dump, identified as 17U58, constructed in 1997, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(4) One (1) Product Transfer to Main Packer #1, identified as 16F5, constructed in 1966, with emissions controlled by integral product collector/baghouse 16F5, and exhausting to stack 102.

(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by integral baghouse 17F27, and exhausting to stack 102.

(6) One (1) Packer #1, identified as 17Z38, constructed in 1966, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F10, and exhausting to stack 177.

(8) One (1) Bag Packer #2, identified as 17Z01, constructed in 1995, with emissions controlled by integral product collector/baghouse 17F01, and exhausting to stack 177.

(9) One (1) Bag Packer #2 House Dust Collector, identified as 17F02, constructed in 1995, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by integral baghouse 41F18, and exhausting via vent 186 to stack 355.

(12) One (1) Roll Dried Starch Products Bag Packer #3, identified as 41Z5, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(13) One (1) Spray Cook Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F7, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7, and exhausting via vent 184 to stack 355.

(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by integral baghouse 41F181, and exhausting via vent 184 to stack 355.

(15) One (1) Spray Cook/O.S. Starch Products Bag Packer #3, identified as 41Z3, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7 or baghouse 41F181, and exhausting via vent 184 to stack 355.

(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by integral baghouse 41F182, and exhausting via vent 428 to stack 355.

(17) One (1) Malto Products Bag Packer #3, identified as 41Z1, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by integral baghouse 41F183, and exhausting via vent 429 to stack 355.

(19) One (1) Dry Starch Reacted Products Bag Packer #3, identified as 41Z2, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(20) One (1) Bag Packer #3 House Dust Collector, identified as 41F186, constructed in 2007, with emissions controlled by baghouse 41F186, and exhausting via vent 430 to stack 355.

(21) One (1) Bag Packer #3 House Dust Collector, identified as 41F44, constructed in 1995, with emissions controlled by baghouse 41F44, and exhausting via vent 256 to stack 361.

(22) One (1) Bag Packer #4, identified as 17Z03, constructed in 1995, with emissions controlled by integral product collector/baghouses 17F03 and 17F04, and exhausting via vent 332 to stack 356.

(23) One (1) House Dust Collection System for Bag Packer #4, identified as 17F15, constructed in 1995, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(25) One (1) Product Transfer for Bulk Bagger #1 (16J44), identified as 16F25, constructed in 1988, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(26) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(27) One (1) Product Transfer for Bulk Bagger #2 (17Z14), identified as 17F14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(28) One (1) Bulk Bagger #2, identified as 17Z14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(29) One (1) Product Receiver for Bulk Bagger #3, identified as 41F8, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F8, and exhausting via vent 208 to stack 355.

(30) Two (2) Product Receivers for Bulk Bagger #3, identified as 41F81 and 41F82, constructed in 1997, with emissions controlled by integral product receiver/baghouses 41F81 and 41F82, and exhausting via vent 208 to stack 355.

(31) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

(32) One (1) Bulk #1 Product Screening System, identified as 20F1, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F1, and exhausting via vent 330 to stack 404.

(33) One (1) Bulk #2 Product Screening System, identified as 20F50, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F50, and exhausting via vent 331 to stack 404.

(34) One (1) Bulk Starch Rail Loadout #1 (Track #9), identified as 20F61, constructed in 1966, with emissions controlled by baghouse 20F61, and exhausting via vent 135 to stack 404.

(35) One (1) Bulk Starch Rail Loadout #2 (Track #10), identified as 20F60, constructed in 1993, with emissions controlled by baghouse 20F60, and exhausting via vent 79 to stack 404.

(36) One (1) Pneumatic Truck Loadout, identified as 20F78 and 20F79, constructed in 1997, with emissions controlled by baghouses 20F78 and 20F79, and exhausting via vent 264 to stack 404.

(37) One (1) Bulk Starch Rail Loadout #3 (J4), identified as 16F100, constructed in 1989, with emissions controlled by baghouse 16F100, and exhausting via vent 183 to stack 177.

(38) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 41F6, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F6, and exhausting to stack 189.

(i) Boiler Support Facilities, consisting of:

(1) One (1) Coal Storage Silo, identified as 31V3, constructed in 1984, with emissions controlled by bin vent 31F21, and exhausting to stack 203. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(2) One (1) Coal Day Bin, identified as 31V4, constructed in 1984, with emissions controlled by bin vent 31F19, and exhausting to stack 204. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(3) One (1) Coal Day Bin, identified as 31V5, constructed in 1984, with emissions controlled by bin vent 31F20, and exhausting to stack 205. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(4) One (1) GMH Storage Silo, identified as 9V32, loaded pneumatically via Pneumatic Conveyor, identified as 17C19, constructed in 1966, with emissions controlled by bin vent 9F32, and exhausting to stack 119.

(5) One (1) Boiler Ash Pneumatic Transfer to Ash Silo, identified as 31F10, constructed in 1984, with emissions controlled by baghouse 31F22 with ash steam exhauster 31Z3 and air washer 31Z5, and exhausting to stack 200.

(6) One (1) Boiler Ash Silo and Truck Loading, identified as 31V1, constructed in 1984, with emissions controlled by bin vent 31F1, and exhausting to stack 199.

(j) Utility Area, consisting of:

(1) Three (3) natural gas-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) coal-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004, with a heat input capacity of 231 MMBtu/hr, equipped with low-NO_x burners, using natural gas or coal and starch mixture as supplement fuels, with emissions controlled by baghouse 31F2, and exhausting to stack 202.

(k) One (1) Wastewater Treatment Anaerobic Digester, identified as 34V10, constructed in 1985. Biogas emissions can be:

(1) Controlled by the use of an alkaline scrubber, identified as 34V11, for controlling H_2S emissions; and

(A) Used as fuel in fiber flash dryer furnace 21B501; and/or

(B) Used as fuel in gluten flash dryer 48D101; and/or

(C) Combusted in one (1) main flare (21Z1), exhausting to stack 271, if the biogas produced exceeds these emissions units' capacity;

or

(2) Combusted in one (1) emergency flare (34Z1), exhausting to stack 272.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]

This stationary source also includes the following insignificant activities:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.

(b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(d) Combustion source flame safety purging on startup.

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] [326 IAC 8-4-9]

(f) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(g) The following VOC and HAP storage containers: Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; Vessels storing lubricating oils, hydraulic oils, and machining fluids.

(h) Refractory storage not requiring air pollution control equipment.

(i) Equipment used exclusively to fill drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(k) Cleaners and solvents having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20˚C (68˚F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(m) Closed loop heating and cooling systems.

(n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables. [326 IAC 6-3-2]

(o) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(p) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is to an on-site sewage treatment facility.

(q) Any operation using aqueous solutions containing less than 1% by weight VOCs excluding HAPs.

(r) Noncontact, forced and induced, draft cooling tower systems not regulated under a NESHAP.

(s) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in other air filtration equipment.

(t) Heat exchanger cleaning and repair.

(u) Process vessel degassing and cleaning to prepare for internal repairs.

(v) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

(w) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3-2]

(x) Asbestos abatement projects regulated by 326 IAC 14-10. [326 IAC 14-10]

(y) Purging of gas lines and vessels that are related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(z) Equipment used to collect any material that might be released during a malfunction process upset, or spill cleanup, including catch tanks, temporary liquid separator tanks, and fluid handling equipment.

(aa) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(bb) On-site fire and emergency response training approved by the department.

(cc) Emergency generators as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment Generator, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63,

Subpart ZZZZ]

(dd) Purge double block and bleed valves.

(ee) Filter or coalescer media changeout.

(ff) Vents from ash transport systems not operated at positive pressure. [326 IAC 6-3-2]

(gg) A laboratory as defined in 326 IAC 2-7-1(21)(D).

(hh) Research and development activities as defined in 326 IAC 2-7-1(21)(E).

(ii) Facilities in coal preparation plants, including:

(1) One (1) Coal Truck Dump Hopper, identified as 31V2, constructed in 1984, with emissions uncontrolled.

(2) One (1) Coal Bucket Elevator, identified as 31U3, constructed in 2009, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(3) One (1) Coal Bucket Elevator, identified as 31U4, constructed in 2008, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(4) One (1) Coal Feed Conveyor, indentified as 31U5, constructed in 1984, with emissions uncontrolled, and exhausting to Silo 31V3 and Bins 31V4 and 31V5.

(5) One (1) Coal Pulverizer, identified as 31G3, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

(6) One (1) Coal Pulverizer, identified as 31G4, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

Under 40 CFR 60, Subpart Y, these are considered existing affected sources.
[40 CFR 60, Subpart Y]

(jj) Propylene oxide storage tank and associated distribution system, including

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source.
[40 CFR 63, Subpart EEEE]

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

<u>Buildings 7 and 25 --- Starch Bin Room and Belt Dryer Mill Room:</u>

Belt Dryer Vacuum Filter Pump (S/V 178), identified as 07C3.
Belt Dryer Vacuum Filter Pump (S/V 179), identified as 07C4.

Building 11 --- Utilities and Chemical Unloading Area:
Sulfur Dioxide Storage Tank Three Relief Vents (S/V 170 - S/V 172), identified as 09V2.
Hot Oil Tank, identified as 11V199, with a capacity of 9,200 gallons.

Building 14 --- Steep Tank Area and Chemical Unloading Area:
Steep Evaporator Polish Heater (S/V 306), identified as 1472.
Dent 2 Starch Storage Tank (S/V 304), identified as 15V261.
Dent 3 Starch Storage Tank (S/V 302), identified as 15V244.
Dent 4 Starch Storage Tank (S/V 301), identified as 15V260.
Gluten Storage Tank (S/V 303), identified as 15V245.
Dilute Sulfuric Acid Tank (S/V 51), identified as 15V310.
Dow Quat Tank (S/V 57), identified as 14V112, constructed after 1984, with a capacity of 24,000 gallons.
Dilute Caustic Tank (S/V 58), identified as 14V106.
Dilute Caustic Tank (S/V 59), identified as 14V107.
Dilute Caustic Tank (S/V 150), identified as 09V95.
Bleach Tank (S/V 60), identified as 09V142.
Bleach Tank (S/V 61), identified as 09V143.
Acetic Anhydride Tank (S/V 56), identified as 15V228, with a capacity of 12,000 gallons.
Concentrated Sulfuric Acid Tank (S/V 52), identified as 14V309.
Phosphorus Oxychloride Tank Pressure Relief (S/V 55), identified as 15V229.
Hydrogen Peroxide Tank (S/V 54), identified as 09V232.
Steepwater Loadout (S/V 307), identified as 23L001.
Heavy Steep Water Tank (S/V 298), identified as 23V259.
Waxy Starch Storage (S/V 299), identified as 15V262.
Light Steepwater Storage Tank (S/V 300), identified as 14V21.
Dent 1 Starch Storage Tank (S/V 451), identified as 15V265.
Tri-Polyphosphate Mix Tank (S/V 450), identified as 09V104.

Building 15 --- Wet Mill:
Mill House Steam Condensate Tank (S/V 5), identified as 14V165.
Steam Vapor Condensate Tank (S/V 151), identified as 14V89.
Mill House Good Steam Condensate Tank (S/V 152), identified as 14V132.
Steam Vent (S/V 153), identified as St. Vent.
Starch Reactor (S/V 155), identified as 15V277.

Building 16 --- Belt Dryers:
Belt Dryer Scrubber Pot (S/V 293), identified as 16F26.
Belt Dryer Scrubber Pot (S/V 294), identified as 16F27.

Building 17 --- Starch Warehouse:
Belt Dryer Steam Exhaust (S/V 196), identified as 16V100.
Belt Dryer Scrubber Pot (S/V 295), identified as 17F78.
Belt Dryer Scrubber Pot (S/V 296), identified as 17F79.

Buildings 18, 18B, and 18C --- Refinery Area:
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V181.
N Octenyl Succinic Anhydride (NOSA) Tank, identified as 18V197, with a capacity of 13,000 gallons.
Filtration Hold and Enzyme Addition Tank, identified as 18V273, with a maximum capacity of 70,000 gallons.
Precoat Vacuum Filter (S/V 163C), identified as 18F55.
Precoat Filter Vacuum Pump (S/V 161C), identified as 18C255.

Starch Reslurry Tank, identified as 18V85.
Jet Cooker Feed Tank, identified as 18V165.
Starch Acid Mix Tank (S/V 322), identified as 18V99.
Jet Cooker Entry Chamber (S/V 320), identified as 18V67.
Maltodextrin Tank, identified as 18V167.
Maltodextrin Tank, identified as 18V168.
Maltodextrin Tank, identified as 18V176.
Maltodextrin Tank, identified as 18V177.
Pre-Evaporator Feed Tank, identified as 18V94.
Syrup Pre-Evaporator, identified as 14X20.
High DS Vacuum Filter Pump (S/V 309), identified as 18P390.
High DS Vacuum Filter Pump (S/V 309), identified as 18P391.
Precoat Vacuum Filter (S/V 163D), identified as 18F56.
Precoat Vacuum Filter (S/V 163E), identified as 18F20.
Precoat Filter Vacuum Pump (S/V 161D), identified as 18C156.
Precoat Filter Vacuum Pump (S/V 161E), identified as 18C20.
Booster Vacuum Pump (S/V 161F), identified as 18C16.
Condensate Receiver (S/V 162A), identified as 18V211.
Condensate Receiver (S/V 162B), identified as 18V221.
Steam Relief Vent (S/V 159), identified as St. Vent.
Steam Relief Vent (S/V 9), identified as 18X81.
Malto Evaporator (S/V 10), identified as 18X32.
Jet Converter Hotwell (S/V 165C), identified as 18V28.
Belt Dryer Vacuum Cleaning System, identified as 18F37.
Precoat Makeup Tank (S/V 6), identified as 18V78.
Precoat Feed Tank (S/V 323), identified as 18V72.
Expansion Tank for Hot Oil, identified as 18V200, with a capacity of 2,500 gallons.
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V182.
Non-Propylene Oxide Starch Reactor (S/V 40), identified as 18V183.
Non-Propylene Oxide Starch Reactor (S/V 401), identified as 18V272.

Building 19 --- Roll Dryer System:
Roll Dryer Supply Tank (S/V 439), identified as 18V166.
Roll Dryer Vacuum Filter (S/V 440), identified as 19F201.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 441), identified as 19C241.
Roll Dryer Feed Tank (S/V 442), identified as 19V205.

Building 21 --- Feed House:
Sump Collection Tank (S/V 305), identified as 21V206.

Building 34 --- Waste Treatment Building:
Bleach Storage Tank (S/V 63), identified as 34V50.
Ammonia Storage Tank (S/V 62), identified as 34V1.
Mannic Polymer Tank (S/V 319), with a capacity of 17,000 gallons.

Building 41 --- Roll Dryers:
41 Building House Vacuum System, identified as 41F133. [326 IAC 6-3-2]
Roll Dryer Supply Tank (S/V 193), identified as 41V104.
Roll Dryer Supply Tank (S/V 194), identified as 41V105.
Roll Dryer Filter Feed Tank (S/V 292), identified as 41V101.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 192), identified as 41C110.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 270), identified as 41C111.

Building 45 --- Propylene Oxide Reactors:
Propylene Oxide Reactor (45V223) Pressure Relief Vent (S/V 13), identified as 45V223.
Propylene Oxide Reactor (45V223) Vent Fan (S/V 32), identified as 45C223.

Propylene Oxide Reactor (45V240) Pressure Relief Vent (S/V 15), identified as 45V240.
Propylene Oxide Reactor (45V240) Vent Fan (S/V 16), identified as 45C240.
Propylene Oxide Reactor (45V241) Pressure Relief Vent (S/V 25), identified as 45V241.
Propylene Oxide Reactor (45V241) Vent Fan (S/V 26), identified as 45C241.
Propylene Oxide Reactor (45V242) Pressure Relief Vent (S/V 27), identified as 45V242.
Propylene Oxide Reactor (45V242) Vent Fan (S/V 28), identified as 45C242.
Propylene Oxide Reactor (45V243) Pressure Relief Vent (S/V 29), identified as 45V243.
Propylene Oxide Reactor (45V243) Vent Fan (S/V 30), identified as 45C243.
Propylene Oxide Reactor (45V246) Pressure Relief Vent (S/V 35), identified as 45V246.
Propylene Oxide Reactor (45V246) Vent Fan (S/V 36), identified as 45C246.
Propylene Oxide Reactor (45V247) Pressure Relief Vent (S/V 37), identified as 45V247.
Propylene Oxide Reactor (45V247) Vent Fan (S/V 38), identified as 45C247.
Propylene Oxide Reactor (45V248) Pressure Relief Vent (S/V 217), identified as 45V248.
Propylene Oxide Reactor (45V248) Vent Fan (S/V 218), identified as 45C248.
Propylene Oxide Reactor (45V270) Pressure Relief Vent (S/V 44), identified as 45V270.
Propylene Oxide Reactor (45V270) Vent Fan (S/V 44), identified as 45C270.
Propylene Oxide Reactor (45V271) Pressure Relief Vent (S/V 46), identified as 45V271.
Propylene Oxide Reactor (45V271) Vent Fan (S/V 46), identified as 45C271.
Propylene Oxide Reactor (45V280) Pressure Relief Vent (S/V 336), identified as 45V280.
Propylene Oxide Reactor (45V280) Vent Fan (S/V 336), identified as 45C280.
Propylene Oxide Reactor (45V281) Pressure Relief Vent (S/V 337), identified as 45V281.
Propylene Oxide Reactor (45V281) Vent Fan (S/V 337), identified as 45C281.
Propylene Oxide Reactor (45V292) Pressure Relief Vent (S/V 412), identified as 45V292.
Propylene Oxide Reactor (45V292) Vent Fan (S/V 412), identified as 45C292.
Propylene Oxide Reactor (45V293) Pressure Relief Vent (S/V 413), identified as 45V293.
Propylene Oxide Reactor (45V293) Vent Fan (S/V 413), identified as 45C293.
Propylene Oxide Reactor (45V294) Pressure Relief Vent (S/V 414), identified as 45V294.
Propylene Oxide Reactor (45V294) Vent Fan (S/V 414), identified as 45C294.
Propylene Oxide Reactor (45V295) Pressure Relief Vent (S/V 415), identified as 45V295.
Propylene Oxide Reactor (45V295) Vent Fan (S/V 415), identified as 45C295.
Propylene Oxide Reactor (45V296) Pressure Relief Vent (S/V 416), identified as 45V296.
Propylene Oxide Reactor (45V296) Vent Fan (S/V 416), identified as 45C296.
PO Scrubber Sulfuric Acid Tank, identified as 45V212, with a capacity of 25,000 gallons.
Sodium Sulfate Liquid Storage Tank (S/V 65), identified as 45V252.

Building 46 --- Spray Dryer #2:
Cooker Product Tank (S/V 437), identified as 46V294.
Product Tank (S/V 438), identified as 46V296.

Wet Milling Operations
Corn Heater Tank, identified as 14V600.
Steepwater Evaporator Vacuum Pump, identified as 14P510.
Third Grind Receiver Tank, identified as 15V33.

Feed/Meal/Germ Production Operations
Fiber Flash Dryer Paddle Mixer, identified as 21U501.
RST Feed Dryer Mixer, identified as 21J47.
RST Germ Dryer Discharge Conveyor, identified as 21U403.
Hammermill Feed Drag Conveyor, identified as 21U313.
Hammermill Discharge Transfer Conveyor, identified as 21U315.
Feed Loadout Transfer Conveyor, identified as 21U201.
Product Collector Conveyor, identified as 12U10.
Truck Loadout Conveyor, identified as 12U54.

Syrup Refining Operations
Reject Flash Enzyme Chamber, identified as 18V313.
Vacuum Flash Enzyme Chamber, identified as 18V513.

Starch Modification Operations
Flash 3 Larox Filter Feed Tank, identified as 43V73.
Dryer Starch Feed Conveyor/Flash 3 Paddle Mixer, identified as 43U74.
Roll Dryer 1 Reslurry Tank, identified as 41V103.
Roll Dryer 2 Reslurry Tank, identified as 19V200.

Starch Drying and Handling Operations
Agglomerator Feed Blender, identified as 50U106.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22); or

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

(a) This permit, T157-27029-00003, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T157-27029-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] [40 CFR 64] [326 IAC 3-8]

(a) Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

(b) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(c) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.14 Response to Excursions or Exceedances [40 CFR 64] [326 IAC 3-8] [326 IAC 2-7-5] [326 IAC 2-7-6]

(I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(II)

(a) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing

emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing,

reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) CAM recordkeeping requirements.

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following:

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates the analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 326 IAC 2-2-8(b)(6)(A), 326 IAC 2-2-8(b)(6)(B), 326 IAC 2-3-2(l)(6)(A), and/or 326 IAC 2-3-2(l)(6)(B)) that a “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Before beginning actual construction of the “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1(kk)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8(b)(6)(A) and/or 326 IAC 2-3-2(l)(6)(A)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [40 CFR 64] [326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(ww) and/or 326 IAC 2-3-1(pp), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Corn Receiving and Handling Operations, consisting of:

(1) One (1) Railcar Corn Dump Hopper, identified as 12V101, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(2) One (1) Truck Corn Dump Hopper, identified as 12V102, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(6) Five (5) Corn Storage Silos, identified as 13V1, 13V2, 13V3, 13V4 and 13V5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(11) One (1) Bucket Elevator from Corn Cleaner to Steeps, identified as 14U9, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(b) Best available control technology (BACT) for PM and PM_{10} (Filterable and Condensable) shall be the use of baghouse 08F300, and:

(1) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(3) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(4) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(5) The opacity from the baghouse 08F300 shall not exceed 3%.

Compliance Determination Requirements

D.1.2 Particulate Control

In order to comply with Condition D.1.1, baghouse 08F300 for particulate control shall be in operation and control emissions from emission units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9 at all times when an emission unit that the baghouse controls is in operation.

D.1.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.1.4 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM_{10} testing of baghouse 08F300 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.5 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the exhaust from stack 433 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.6 Baghouse Parametric Monitoring [40 CFR 64]

(a) The Permittee shall record the pressure drop across baghouse 08F300 used in conjunction with emission units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9 at least once per day when any of these emission units is in operation.

(b) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.1.7 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of stack 433 for the baghouse 08F300 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of the pressure drop across baghouse 08F300 controlling the stack 433 exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) Wet Milling Operations, consisting of:

(1) Twelve (12) Corn Steep Tanks, identified as 14V3 through 14V14, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(2) Two (2) Corn Steep Tanks, identified as 14V15 and 14V16, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(3) Three (3) Corn Steep Tanks, identified as 14V400, 14V401, and 14V402, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) High DS Starch Filter, identified as 18F510, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(5) Three (3) Germ Washing Screens, identified as 15J101, 15J200, and 15J201, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(6) One (1) Light Steepwater Receiver Tank, identified as 14V19, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(7) One (1) High DS Starch Tank, identified as 18V520, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(8) One (1) High DS Starch Wash Water Tank, identified as 18V522, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(9) Seven (7) Grit Starch Separator Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(10) Six (6) Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(11) One (1) First Stage Germ Wash Screen, identified as 15J100, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(12) One (1) Second Stage Germ Wash Screen, identified as 15J99, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(13) One (1) Second Pass Germ Feed Tank, identified as 15V25, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(14) One (1) Grit Starch Feed Tank, identified as 15V26, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(15) One (1) Fiber Supply Tank, identified as 21V33, constructed in 2000, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(16) One (1) Steeped Corn Surge Hopper, identified as 15V21, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(17) One (1) Steeped Corn Separator, identified as 15J5A, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(18) One (1) First Pass Germ Feed Tank, identified as 15V23, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(19) One (1) Second Stage Germ Wash Screen, identified as 15J53, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(20) Two (2) Second Grind Dewatering Screens, identified as 15J14 and 15J24, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(21) One (1) First Grind Receiver Tank, identified as 15V22, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(22) One (1) Second Grind Receiver Tank, identified as 15V24, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(23) One (1) Third Grind Discharge Tank, identified as 15V27, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(24) One (1) Clamshell Wash Water Tank, identified as 15V2, constructed in 1991, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(25) One (1) Clamshell Starch Receiver Tank, identified as 15V42, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(26) One (1) Steeped Corn Tank, identified as 14V17, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(27) One (1) Germ Water Tank, identified as 15V139, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(28) Thirty-six (36) Fiber Wash Screens, identified as 1st Stage through 5th Stage Fiber Wash Screens, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(29) One (1) Dent Starch Slurry Storage Tank, identified as 15V43, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(30) One (1) Steepwater Head Tank, identified as 14V18, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(31) One (1) Mill Acid Tank, identified as 14V96, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(32) One (1) Steep Acid Tank, identified as 14V20, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Wash Box, identified as 15V19, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(34) Five (5) Fiber Wash Receiver Tanks, identified as 15V110 through 15V114, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(35) One (1) Process Water Tank, identified as 15V30, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(36) One (1) Primary Wash Water Tank, identified as 15V41, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(37) One (1) Wash Water Surge Tank, identified as 15V38, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(38) One (1) Primary Feed Tank, identified as 15V34, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(39) One (1) Primary Underflow Tank, identified as 15V35, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(40) One (1) Gluten Thickener Feed Tank, identified as 15V36, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(41) One (1) Heavy Gluten Tank, identified as 15V37, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(42) One (1) Clarifier Feed Tank, identified as 15V40, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(43) One (1) MST Feed Tank, identified as 15V31, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(44) One (1) Gluten Vacuum Filter, identified as 21F6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(45) One (1) Gluten Vacuum Filter Pump, identified as 21C6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(46) One (1) Gluten Vacuum Filter, identified as 21F7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(47) One (1) Gluten Vacuum Filter Pump, identified as 21C7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(48) One (1) Gluten Vacuum Filter, identified as 21F8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(49) One (1) Gluten Vacuum Filter Pump, identified as 21C8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(50) One (1) Gluten Vacuum Filter, identified as 21F9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(51) One (1) Gluten Vacuum Filter Pump, identified as 21C9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Gluten Vacuum Filter, identified as 21F10, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(53) One (1) Gluten Vacuum Filter Pump, identified as 21C10, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(54) One (1) Fiber Dewatering Screen, identified as 21F100, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(55) One (1) Fiber Dewatering Screen, identified as 21F101, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(56) One (1) Germ Scrubber Water Tank, identified as 21V130, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(57) One (1) Gluten Filter Bowl Drain Tank, identified as 21V159, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(58) One (1) Gluten Filter Wash Bar Trough Drain Tank, identified as 21V59, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(59) One (1) Fiber Filtrate Tank, identified as 21V58, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(60) One (1) Heavy Steepwater Tank, identified as 21V56, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(61) One (1) Monitor Tank, identified as 15V210, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

(1) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210; and

(2) Feed/Meal/Germ Production Operations, including 21D3.

(b) For these units, the BACT for SO_2 is the use of alkaline scrubber 15F401, and:

(1) When the inlet SO_2 concentration to the scrubber is greater than 150 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr SO_2; and

(2) When the inlet SO_2 concentration to the scrubber is 150 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of less than 15 ppmvw, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr.

(c) For these units, the BACT for VOC is the use of an absorption system using wet scrubber 15F401, and:

(1) The scrubber shall have a minimum VOC control efficiency of 25%; and

(2) The scrubber outlet VOC emission rate shall not exceed 27 lbs/hr.

Compliance Determination Requirements

D.2.2 Sulfur Dioxide (SO_2) and Volatile Organic Compounds (VOC) Control

In order to comply with Condition D.2.1, scrubber 15F401 used for SO_2 and VOC control shall be in operation and control SO_2 and VOC emissions at all times when any of the following emission units that are aspirated to the scrubber are in operation~~.~~:

(a) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210; and

(b) Feed/Meal/Germ Production Operations, including 21D3;

(c) Syrup Refining Operations, including 18V413; and

(d) Insignificant Activities, including 14V600, 14P510, 15V33, 21U403, and 14X20.

D.2.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.2.1(b) and D.2.1(c), the Permittee shall perform SO_2 and VOC testing of scrubber 15F401 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.4 Scrubber Parametric Monitoring [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the scrubber recirculation rate from scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) Pursuant to 40 CFR 64 (CAM), within ninety (90) days from the issuance date of Significant Permit Modification 157-30882-00003, the Permittee shall monitor and record the scrubber make-up water flow from scrubber 15F401 continuously when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the pH across scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 7 and 9 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this

permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the pH and flow rates shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

(e) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.5 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 15F401 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.6 Record Keeping Requirements

(a) To document compliance with Condition D.2.4, the Permittee shall maintain a daily record of:

(1) The scrubber recirculation rate across scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(2) The scrubber make-up water flow, as read by the continuous monitor, from scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a make-up water flow reading is not taken and the reason for the lack of a make-up water flow reading (e.g. the process did not operate that day).

(3) The pH across scrubber 15F401 controlling the Wet Milling Operation exhaust. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of a pH reading (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(3) Two (2) Natural Gas Fired Thermal Oxidation Units, identified as 48F201 and 48F202, constructed in 2006, with a heat input capacity of 5 million Btu per hour, each.

(4) One (1) Corn Cleanings Receiver, identified as 21F304, loaded pneumatically via Corn Cleanings Pneumatic Transfer, identified as 08C304, constructed in 2007, with emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202; before exhausting to stack 17.

(5) One (1) RST Feed Dryer, identified as 21D301, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F301, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by integral product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(7) One (1) 48D101 Dryer Air Conveying Line, identified as AC8, constructed in 1966, with emissions controlled by integral product collector/baghouse 21F36, and exhausting to stack 145.

(8) One (1) RST Germ Dryer, identified as 21D401, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F401, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(9) Two (2) Water Tube Germ Cooler Rotary Airlock Valves, identified as 21D3 (formerly Germ Dryer 21D3), loaded pneumatically via Germ Pneumatic Transfer 21C404 and Germ Cooler Cyclone 21F404, constructed in 2007, with pneumatic transfer blowback air controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(10) One (1) Feed Cooler, identified as 21D8 (formerly Meal Dryer 21D8), constructed in 1966 and modified in 2007. PM and PM_{10} emissions are controlled by product collector/cyclone 21F310, then PM and PM_{10} emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501, and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(11) One (1) Feed Mill, identified as 21G351, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(12) One (1) Feed Mill, identified as 21G352, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(13) One (1) Feed Milling Loadout Conveyor, identified as 21U314, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(14) One (1) Feed Loadout Hopper, identified as 21V125, permitted in 2005, with emissions aspirated to the inlet of Feed Cooler 21D8 to be used as cooling air.

(15) One (1) Feed Storage Bin, identified as 8V121, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F1, and exhausting to stack 110.

(16) One (1) Feed Storage Bin, identified as 8V122, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F2, and exhausting to stack 111.

(17) One (1) Feed Storage Bin, identified as 8V123, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F3, and exhausting to stack 112.

(18) One (1) Feed Storage Bin, identified as 8V124, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F4, and exhausting to stack 113.

(19) One (1) Meal Storage Bin, identified as 8V62, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F62, and exhausting to stack 114.

(20) One (1) Meal Storage Bin, identified as 8V63, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F63, and exhausting to stack 115.

(21) One (1) Germ Storage Bin, identified as 8V53, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F53, and exhausting to stack 116.

(22) One (1) Germ Storage Bin, identified as 8V54, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F54, and exhausting to stack 117.

(23) Two (2) Co-Product Loadout Conveyors, identified as 8U39 and 8U41, constructed in 1966, with emissions aspirated to Meal Storage Bin 8V62, and controlled by bin vent 8F62, and exhausting to stack 114.

(24) Two (2) Air Conveying Lines to Loadout, identified as AC23 and AC24, constructed in 1966, with emissions controlled by integral product receiver/baghouse 12F39, and exhausting to stack 125.

(25) One (1) Rail Loadout Conveyor, identified as 12U11, constructed in 1991, with emissions controlled by baghouse 12F40, and exhausting to stack 3.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM, PM_{10}, SO_2, VOC, and NO_x using the BACT:

(1) RST Feed Dryer (21D301) – BACT for PM, PM_{10}, SO_2, and VOC;

(2) Rotary Steam Tube Germ Dryer (21D401) – BACT for PM, PM_{10}, SO_2, and VOC;

(3) Gluten Flash Dryer (48D101) – BACT for PM, PM_{10}, SO_2, VOC, and NO_x;

(4) Fiber Flash Dryer (21D501) – BACT for PM, PM_{10}, SO_2, and VOC;

(5) Fiber Flash Dryer Furnace (21B501) – BACT for PM, PM_{10}, VOC, and NO_x;

(6) Feed Cooler (21D8) – BACT for PM and PM_{10};

(7) Corn Cleanings Receiver (21F304) – BACT for PM and PM_{10};

(8) Feed Loadout Hopper (21V125) – BACT for PM and PM_{10}; and

(9) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT for PM, PM_{10}, VOC, and NO_x.

(b) The following combined emission limits are established as BACT for the above dryers:

For these units, the BACT for PM and PM_{10} is the use of scrubbers 21F13 and 21F311 and thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for PM and PM_{10}:

(1) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(3) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(5) Exhaust opacity of the combined gas flow from the thermal oxidizers and the fiber dryer furnace shall not exceed 8%.

(c) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for SO_2 is the use of pH adjusted scrubber 21F13. The following emission limits are the BACT requirements for SO_2:

(1) When the inlet SO_2 concentration to the scrubber is more than 100 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(2) When the inlet SO_2 concentration to the scrubber is 100 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of 10 ppmvw or less, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(d) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(1) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95%, and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(2) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emissions rate shall not exceed 3.16 lbs/hr.

(e) For Fiber Flash Dryer Furnace 21B501, the BACT for VOC is good combustion practices.

(f) For these units, including the Fiber Flash Dryer Furnace 21B501, Gluten Flash Dryer 48D101, and the regenerative thermal oxidizers 48F201 and 48F202, except the RST Feed Dryer 21D301, Rotary Steam Tube Germ Dryer 21D401, Fiber Flash Dryer 21D501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304 and Feed Loadout Hopper 21V125, the BACT for NO_x is the use of low-NO_x burners rated at 0.06 lb/MMBtu or less, and the total NO_x emissions from these burners exhausting to stack S/V 17 shall not exceed 6 lbs/hr.

(g) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Storage Bins 8V121, 8V123, 8V124;

(2) Meal Storage Bin 8V63;

(3) Germ Storage Bin 8V53; and

(4) Germ Storage Bin 8V54.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses and shall meet the following emissions limitations:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
8V121	8F1	0.08	0.08
8V123	8F3	0.08	0.08
8V124	8F4	0.08	0.08
8V63	8F63	0.08	0.08
8V53	8F53	0.08	0.08
8V54	8F54	0.08	0.08

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) Opacity from the baghouses shall not exceed 3%.

(h) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Mill 21G351,

(2) Feed Mill 21G352, and

(3) Feed Milling Loadout Conveyor 21U314.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of a wet scrubber, and:

(1) PM emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(3) PM emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(4) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(5) Opacity from the scrubber shall not exceed 8%.

D.3.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from fiber flash dryer furnace shall be limited to 0.20 lb/MMBtu. The above particulate emissions rate was determined from the following formula:

$$P_t = 1.09 / Q^{0.26}$$

Where:

P_t = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used (Q = 666 MMBtu/hr).

D.3.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities AC8, 8V122, 8V62, 8U39, 8U41, AC23, AC24, and 12U11 shall be limited as follows:

(a) The particulate emission rate from baghouse 21F36 shall not exceed 0.86 lb/hr.

(b) The particulate emission rates from baghouses 8F2 and 8F62 shall not exceed 0.08 lb/hr, each.

(c) The particulate emission rate from baghouse 12F39 shall not exceed 0.21 lb/hr.

(d) The particulate emission rate from baghouse 12F40 shall not exceed 0.51 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.3.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

(a) The following emission units shall be controlled for VOC using the BACT:

(1) RST Feed Dryer (21D301);

(2) Rotary Steam Tube Germ Dryer (21D401);

(3) Gluten Flash Dryer (48D101);

(4) Fiber Flash Dryer (21D501); and

(5) Regenerative Thermal Oxidizers (48F201 and 48F202).

(b) For these units, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(1) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95% and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(2) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emission rate shall not exceed 3.16 lbs/hr.

Compliance with the above PSD BACT limits shall limit the potential emissions of VOC from emission unit 21D501 to less than 25 tons per year. Therefore, compliance with these 326 IAC 2-2-3 limits shall satisfy compliance with 326 IAC 8-1-6.

Compliance Determination Requirements

D.3.5 Particulate, Volatile Organic Compounds (VOC), and Sulfur Dioxide (SO_2) Control

In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), scrubber 21F13 and thermal oxidizers 48F201and 48F202 shall be in operation and control particulate, VOC, and SO_2 emissions from emission units 21D301, 21D401, 48D101, and 21D501 and insignificant activities 21U501 and 21J47 at all times when the material feed system to any emission unit that it controls is in operation.

D.3.6 Particulate Control

(a) In order to comply with Condition D.3.1(b), scrubber 21F311 shall be in operation and control particulate emissions from emission units 21F304, 21D8, and 21V125 and insignificant activities 21U315 and 21U201 and exhaust as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or Thermal Oxidation Units 48F201 and 48F202 at all times when the material feed system to any emission unit that it controls is in operation.

(b) In order to comply with Conditions D.3.1(g) and D.3.3, bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, and 8F54 for particulate control shall be in operation and control particulate emissions from emission units 8V121, 8V122, 8V123, 8V124, 8V62, 8U39, 8U41, 8V63, 8V53, and 8V54 at all times when any emission unit that it controls is in operation.

(c) In order to comply with Condition D.3.1(h), scrubber 21F312 for particulate control shall be in operation and control particulate emissions from emission units 21G351, 21G352, and 21U314 and insignificant activity 21U313 at all times when any emission unit that it controls is in operation.

(d) In order to comply with Condition D.3.3, baghouses 21F36, 12F39, and 12F40 for particulate control shall be in operation and control particulate emissions from emission units AC8, AC23, AC24, and 12U11 at all times when any emission unit that it controls is in operation.

(e) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 21F501 and 21F502 shall be in operation and control particulate emissions from emission unit 21D501 at all times when the material feed system to emission unit 21D501 is in operation.

(f) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 48F101 and 48F102 shall be in operation and control particulate emissions from emission unit 48D101 at all times when the material feed system to emission unit 48D101 is in operation.

D.3.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows .

D.3.8 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), the Permittee shall perform PM, PM_{10}, opacity, VOC, and SO_2 testing of scrubber 21F13 and thermal oxidizers 48F201 and 48F202 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(b) In order to demonstrate compliance with Condition D.3.1(f), the Permittee shall perform NO_x testing of emission units 48D101, 48F201, 48F202, and 21B501 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.9 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the exhaust from stack 17 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the exhausts from stacks 3, 110, 111, 112, 113, 114, 115, 116, 117, 125, 145, and 444 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.10 Scrubber Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the pH across scrubber 21F13 at least once per day when any of the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside ~~of~~ the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 7 and 9 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the recirculation rate from scrubber 21F13 at least once per day during normal operations the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the recirculation rate from scrubber 21F311 at least once per day when any of the emission units 21F304, 21D8, and 21V125 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. If the 1-hr average flow rate falls below the minimum flow rate as specified by the manufacturer, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest

compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The Permittee shall monitor and record the scrubber recirculation rate from scrubber 21F312 at least once per day when any of the emission units 21G351, 21G352, and 21U314 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. If the 1-hr average flow rate falls below the minimum flow rate as specified by the manufacturer, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1(h).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(e) The instruments used for determining the pH and flow rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.3.11 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubbers 21F13, 21F311, and/or 21F312 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.12 Thermal Oxidizer Temperature

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizers for measuring operating temperature. For purposes of this condition, continuous shall mean temperature measurement no less than once per minute. The output of this system shall be recorded as 3-hour average.

(b) The Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1400°F. If the 3-hour average temperature falls below 1,400°F, the Permittee shall take a reasonable response.

(c) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1(d).

(d) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the latest compliant stack test. If the 3-hour average temperature falls below the level observed during the most recent compliant stack test, the Permittee shall take a reasonable response.

(e) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A 3-hr average that is below the established temperature is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.3.13 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.9, the Permittee shall maintain a daily record of visible emission notations of stacks 3, 17, 110, 111, 112, 113, 114, 115, 116, 117, 125, 145, and 444 controlling the Feed/Meal/Germ Production exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.3.10(a), the Permittee shall maintain a daily record of the pH and scrubber recirculation rate from scrubber 21F13 controlling the Feed/Meal/Germ Production exhaust. The Permittee shall include in its daily record when a pH or scrubber recirculation rate reading is not taken and the reason for the lack of a pH or scrubber recirculation rate reading (e.g. the process did not operate that day).

(c) To document the compliance status with Conditions D.3.10(b) and D.3.10(c), the Permittee shall maintain a daily record of the scrubber recirculation rates from scrubbers 21F311 and 21F312 controlling the Feed/Meal/Germ Production exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.3.12, the Permittee shall maintain records of the operating temperatures of thermal oxidizers 48F201 and 48F202.

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(d) Syrup Refining Operations, consisting of:

(1) One (1) HCl Storage Tank (Concentrated), identified as 9V101, constructed in 1995, with emissions controlled by scrubber 9F102, and exhausting to stack 156.

(2) One (1) Acid Reject Flash Chamber, identified as 18V312, constructed in 1966, with emissions uncontrolled, and exhausting to stack 320.

(3) One (1) Jet Conversion Flash Chamber, identified as 18V413, constructed in 1966 and approved in 2011 for the production of OS starches, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(4) One (1) Soda Ash Storage Tank, identified as 9V144, loaded pneumatically via Soda Ash Unloading System, identified as 9C40, constructed in 1966, with emissions controlled by eductor/scrubber 9E1, and exhausting to stack 149.

(5) One (1) Filteraid Storage Silo, identified as 9V31, loaded pneumatically via Filteraid Unloading System, identified as 9C31, constructed in 1966, with emissions controlled by bin vent 9F31, and exhausting to stack 123.

(6) One (1) Filteraid Conveying System to Precoat Makeup Tank, identified as 09C27 and 18C18, constructed in 1966, with emissions controlled by integral product receiver/baghouse 18F118 and air washer 18F218, and exhausting to stack 129.

(7) One (1) Powdered Carbon Storage Silo, identified as 9V30, loaded pneumatically via Powdered Carbon Unloading System, identified as 9C30, constructed in 1966, with emissions controlled by cyclone 09F36, baghouse 09F30, and air washer 09F1, and exhausting to stack 124.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 9V31, 9V30, 09C27, 18C18, and 9V144 shall be limited as follows:

(a) The particulate emission rate from bin vent 9F31 shall not exceed 0.03 lb/hr.

(b) The particulate emission rate from baghouse 09F30 shall not exceed 0.03 lb/hr.

(c) The particulate emission rate from baghouse 18F118 shall not exceed 0.03 lb/hr.

(d) The particulate emission rate from eductor/scrubber 9E1 shall not exceed 0.27 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.4.2 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.4.1(a), bin vent 9F31 shall be in operation and control particulate emissions from emission unit 9V31 at all times emission unit 9V31 is in operation.

(b) In order to comply with Condition D.4.1(b), baghouse 9F30 shall be in operation and control particulate emissions from emission unit 9V30 at all times emission unit 9V30 is in operation.

(c) In order to comply with Condition D.4.1(c), baghouse 18F118 shall be in operation and control particulate emissions from emission unit 09C27 and 18C18 at all times emission units 09C27 and 18C18 are in operation.

(d) In order to comply with Condition D.4.1(d), eductor/scrubber 9E1 shall be in operation and control particulate emissions from emission unit 9V144 at all times emission unit 9V144 is being loaded.

D.4.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.4 Visible Emissions Notations

(a) Visible emission notations of the stacks' 123, 124, and 149 exhausts shall be performed once per day during normal daylight operations when rail or truck unloading operations occur. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stack 129 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.4.5 Eductor/Scrubber Parametric Monitoring

The Permittee shall make a visible observation for the presence of scrubber recirculation flow each time that soda ash is unloaded through eductor/scrubber 9E1 controlling emissions from facility 9C40. If an inadequate scrubber recirculation flow is observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.4.6 Eductor/Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 9E1 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.4.7 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.4, the Permittee shall maintain a daily record of visible emission notations of stacks 123, 124, 129, and 149 controlling the Syrup Refining Operation exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.4.5, the Permittee shall maintain observations of scrubber recirculation flow each time soda ash is unloaded from the scrubbers controlling emissions from facility 9C40.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(e) Starch Modification Operations, consisting of:

(1) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V115, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 11.

(2) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V116, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 12.

(3) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V222, constructed in 1973 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 31.

(4) One (1) PO Reactor, identified as 45V223, constructed in 1973, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(5) One (1) PO Reactor, identified as 45V240, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(6) One (1) PO Reactor, identified as 45V241, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(7) One (1) PO Reactor, identified as 45V242, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(8) One (1) PO Reactor, identified as 45V243, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(9) One (1) PO Reactor, identified as 45V246, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(10) One (1) PO Reactor, identified as 45V247, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(11) One (1) PO Reactor, identified as 45V248, constructed in 1991, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(12) One (1) PO Reactor, identified as 45V270, constructed in 1995, with emissions controlled by scrubber 45F212, exhausting to stack 50.

(13) One (1) PO Reactor, identified as 45V271, constructed in 1995, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(14) One (1) PO Reactor, identified as 45V280, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(15) One (1) PO Reactor, identified as 45V281, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(16) Five (5) Propylated Starch Reactors, identified as 45V292, 45V293, 45V294, 45V295, and 45V296, constructed in 2007, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(17) One (1) Oxidized Starch Reactor, identified as 18V173, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(18) One (1) Oxidized Starch Reactor, identified as 18V178, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(19) One (1) Oxidized Starch Reactor, identified as 18V180, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(20) One (1) Oxidized Starch Reactor, identified as 18V174, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(21) One (1) Oxidized Starch Reactor, identified as 18V175, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(22) One (1) Oxidized Starch Reactor, identified as 18V179, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(23) One (1) Tri-Polyphosphate Storage Bin, identified as 9V103, constructed in 1988, with emissions controlled by bin vent 9F103, and exhausting to stack 68.

(24) One (1) Sodium Sulfate Storage Bin, identified as 45V250, loaded pneumatically via Sodium Sulfate Unloading System, identified as 09C200 and 09F200, constructed in 1985, with emissions controlled by two bin vents, 45F25 and 45F25A, and exhausting to stack 64.

(25) One (1) Flash 1 Filtrate Reineveldt Centrifuge, identified as 40Y1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(26) One (1) Flash 1 Slurry Hold Tank, identified as 40V1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(27) One (1) Flash 1 Starch Hold Tank, identified as 40V50, constructed in 1996, with emissions uncontrolled, and exhausting to stack 289.

(28) One (1) Dryer Starch Feed Conveyor/Flash 1 Paddle Mixer, identified as 40U2, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(29) Two (2) Flash 2 Slurry Hold Tanks, identified as 40V20 and 40V21, constructed in 1990, with emissions uncontrolled, and exhausting to stack 80.

(30) Three (3) Flash 2 Larox Filters, identified as 40F51, 40F52, and 40F53, constructed in 1995, with emissions uncontrolled, and exhausting to stack 249.

(31) One (1) Flash 2 Larox Filter, identified as 40F54, constructed in 2002, with emissions uncontrolled, and exhausting to stack 249.

(32) One (1) Flash 2 Air Release Tank, identified as 40V15, constructed in 1995, with emissions uncontrolled, and exhausting to stack 250.

(33) One (1) Flash 2 Air Release Tank, identified as 40V16, constructed in 2002, with emissions uncontrolled, exhausting to stack 251.

(34) One (1) Dryer Starch Feed Conveyor/Flash 2 Paddle Mixer, identified as 40U23, constructed in 1995, with emissions uncontrolled, exhausting to stack 249.

(35) Two (2) Flash 3 Slurry Hold Tanks, identified as 43V71 and 43V72, constructed in 1995, with emissions uncontrolled, and exhausting to stack 273.

(36) Three (3) Flash 3 Larox Filters, identified as 43F71, 43F72, and 43F73, constructed in 1995, with emissions uncontrolled, and exhausting to stack 260.

(37) One (1) Flash 3 Larox Air Release Tank, identified as 43V85, constructed in 1995, with emissions uncontrolled, and exhausting to stack 261.

(38) One (1) Flash 3 Larox Air Release Tank, identified as 43V86, constructed in 1995, with emissions uncontrolled, and exhausting to stack 318.

(39) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(40) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(41) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(42) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(43) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(44) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(45) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.5.2 Avoidance Limits for PSD [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) The amount of acid-thinned starch produced without peroxide from reactors 45V115, 45V116, and 45V222 shall be limited to fifty million (50,000,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The sulfur dioxide (SO_2) emission rate from reactors 45V115, 45V116, and 45V222 shall not exceed 43 pounds SO_2 per 100,000 pounds of acid-thinned starch, combined.

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 45V115, 45V116, and 45V222.

D.5.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 45V250 and 9V103 shall be limited as follows:

(a) The particulate emission rates from bin vents 45F25 and 45F25A shall not exceed 0.13 lb/hr, combined.

(b) The particulate emission rate from bin vent 9F103 shall not exceed 0.04 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.5.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.5.5 Avoidance Limits for HAPs [326 IAC 2-4.1]

In order to render the requirements of 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following BACT requirements, pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance with these limits will render the requirements of 326 IAC 2-4.1 not applicable to emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

Compliance Determination Requirements

D.5.6 Volatile Organic Compounds (VOC) and Hazardous Air Pollutant (HAP) Control

In order to comply with Conditions D.5.1, D.5.4, and D.5.5, scrubber 45F212 shall be in operation and control VOC and HAP emissions from emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296 at all times any of those emission units are in operation.

D.5.7 Particulate Control

In order to comply with Condition D.5.3, bin vents 45F25, 45F25A, and 9F103 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

D.5.8 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.5.9 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.5.1, D.5.4, and D.5.5, the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.10 Visible Emissions Notations

(a) Visible emission notations of the stacks' 64 and 68 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.5.11 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH across scrubber 45F212 at least once per day when any of the emission units being aspirated to scrubber 45F212 are in operation.

(1) When, for any one reading, the pH across the scrubber is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 0.5 and 4 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record monitor the recirculation rate from scrubber 45F212 continuously when any of the emission units being aspirated to scrubber 45F212 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 390 gallons per minute. If the 1-hr average flow rate falls below 390 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.5.1, D.5.4, and D.5.5.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pH and flow rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and

shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.5.12 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 45F212 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.5.13 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.14 Record Keeping Requirements

(a) To document the compliance status with Conditions D.5.1, D.5.4, and D.5.5, the Permittee shall maintain monthly records for propylated starch reactions that do not undergo the acid-kill step to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303.

Note that this record is the same record as required in Condition D.7.13(a).

(b) To document the compliance status with Condition D.5.2, the Permittee shall maintain monthly records of the amount of acid-thinned starch produced without peroxide from reactors 45V115, 45V116, and 45V222.

(c) To document the compliance status with Condition D.5.10, the Permittee shall maintain a daily record of visible emission notations of stacks 64 and 68 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.5.11, the Permittee shall maintain a daily record of:

(1) The pH across scrubber 45F212 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a pH reading is not taken and the reason for the lack of a pH reading (e.g. the process did not operate that day).

(2) The scrubber recirculation rate, as read by the continuous monitor, from scrubber 45F212 controlling the Starch Modification Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(e) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Starch Reaction Operations, consisting of:

(1) One (1) Starch Feed Bin, identified as 33V1, constructed in 1995, with emissions controlled by bin vent 33F1, and exhausting via vent 236 to stack 355.

(2) One (1) Starch Feed Bin, identified as 33V2, constructed in 1995, with emissions controlled by bin vent 33F2, and exhausting via vent 237 to stack 355.

(3) One (1) Catalyst Bin, identified as 33V5, constructed in 1995, with emissions controlled by bin vent 33F5, and exhausting to stack 239.

(4) One (1) Low Pressure Dry Starch Reactor, identified as 33R1, constructed in 1995, with emissions controlled by baghouses 33F101 and 33F102, and exhausting to stack 238.

(5) One (1) High Pressure Dry Starch Reactor, identified as 33R2, constructed in 1995, with emissions controlled by baghouses 33F201 and 33F202, and exhausting to stack 240.

(6) One (1) Reactor Surge Bin, identified as 50V61, loaded pneumatically via Pneumatic Conveyor, identified as 33C8, constructed in 1997, with emissions controlled by bin vent 50F161, and exhausting via vent 241 to stack 361.

(7) One (1) Reactor Surge Bin, identified as 50V62, loaded pneumatically via Pneumatic Conveyor, identified as 33C4, constructed in 1997, with emissions controlled by bin vent 50F162, and exhausting via vent 242 to stack 361.

(8) One (1) Dry Starch Product Screening Receiver, identified as 50F45, constructed in 1995, with emissions controlled by integral product receiver/baghouse 50F45, and exhausting via vent 262 to stack 355.

(9) One (1) Dry Starch Product Screening Receiver, identified as 50F48, constructed in 1997, with emissions controlled by integral product receiver/baghouse 50F48, and exhausting via vent 243 to stack 355.

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(11) One (1) Dry Starch Blend Bin, identified as 33V42, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F42, and exhausting via vent 244 to stack 355.

(12) One (1) Dry Starch Blend Bin, identified as 33V43, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F43, and exhausting via vent 245 to stack 355.

(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.

(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 33C65, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable, PM and PM_{10} emissions from emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed the emissions limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Feed Bin (33V1)	236 to 355	0.29	0.29
Starch Feed Bin (33V2)	237 to 355	0.29	0.29
Low Pressure Dry Starch Reactor (33R1)	238	0.078	0.078
Catalyst Storage Bin (33V5)	239	0.034	0.034
High Pressure Dry Starch Reactor (33R2)	240	0.08	0.08
Dry Starch Product Screening Receiver (50F48), Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, 247 to 355	0.55, total	0.55, total
Dry Starch Product Screening Receiver (50F45)	262 to 355	0.07	0.07

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45.

(b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The PSD avoidance limits for PM in Condition D.6.1(a) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.6.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 50V61 and 50V62 shall be limited as follows:

The particulate emission rates from bin vents 50F161 and 50F162 shall not exceed 0.11 lb/hr, each.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.6.3 Particulate Control

(a) In order to comply with Conditions D.6.1 and D.6.2, baghouses 33F101, 33F102, 33F201, 33F202, 50F45, 50F48, and 50F11 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

(b) In order to comply with Conditions D.6.1 and D.6.2, bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

D.6.4 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.5 Visible Emissions Notations

(a) Visible emission notations of the stacks' 238, 239, 240, 355, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.6.6 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.5, the Permittee shall maintain a daily record of visible emission notations of stacks 238, 239, 240, 355, and 361 controlling the Starch Reaction Operation exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

(1) One (1) Adipic Acid Storage Bin, identified as 43V90, loaded pneumatically via truck unloading, constructed in 1996, with emissions controlled by bin vent 43F90, and exhausting to stack 274.

(2) One (1) Starch Flash Dryer #1, identified as 40D1, constructed in 1986, with a heat input capacity of 14.4 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F1 and 40F2 and scrubber 40F3, and exhausting to stack 69.

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7, and exhausting to stack 70.

(4) One (1) Pneumatic Conveying to Mill Feed Receiver, identified as 25F1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F1, and exhausting to stack 147.

(5) One (1) Belt Dryer Mill, identified as 25G1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F2, and exhausting to stack 146.

(6) One (1) Starch Storage Bin #8, identified as 7V8, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F8, and exhausting to stack 71.

(7) One (1) Starch Storage Bin #9, identified as 7V9, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F9, and exhausting to stack 72.

(8) One (1) Starch Flash Dryer #2, identified as 40D20, constructed in 1990 and modified in 1991, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F20 through 40F25 and scrubber 40F26, and exhausting to stack 73.

(9) One (1) Grinder Feed Collector, identified as 40F27, constructed in 1990, and exhausting to the intake of bins 7V20, 7V21, 7V22 and 7V23.

(10) One (1) Starch Grinder/Mill #1, identified as 40G20, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F28, and exhausting via vent 286 to stack 360.

(11) One (1) Starch Grinder/Mill #2, identified as 40G21, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F29, and exhausting via vent 287 to stack 360.

(12) One (1) Starch Product Bin #20, identified as 7V20, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F20, and exhausting to stack 76.

(13) One (1) Starch Product Bin #21, identified as 7V21, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F21, and exhausting to stack 77.

(14) One (1) Starch Product Bin #22, identified as 7V22, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F22, and exhausting to stack 78.

(15) One (1) Starch Bin #33, identified as 7V23, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1995, with emissions controlled by bin vent 7F33, and exhausting to stack 267.

(16) One (1) Starch Flash Dryer #3, identified as 43D71, constructed in 1995, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 43F81 through 43F86 and scrubber 43F80, and exhausting to stack 265.

(17) One (1) Flash #3 Mill, identified as 40G88, constructed in 1996, with emissions controlled by integral product receiver/baghouse 40F88, and exhausting to stack 266.

(18) One (1) Starch Bin #34, identified as 7V34, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F34, and exhausting to stack 268.

(19) One (1) Starch Bin #35, identified as 7V35, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F35, and exhausting to stack 269.

(20) One (1) Starch Blend Bin #91, identified as 7V91, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F91, and exhausting to stack 345.

(21) One (1) Starch Blend Bin #92, identified as 7V92, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F92, and exhausting to stack 346.

(22) One (1) Starch Roll Dryer #1, identified as 41D1, constructed in 1986, with emissions uncontrolled, and exhausting to stack 91.

(23) One (1) Starch Roll Dryer #2, identified as 41D2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 92.

(24) One (1) Starch Roll Dryer #3, identified as 41D3, constructed in 1986, with emissions uncontrolled, and exhausting to stack 93.

(25) One (1) Starch Roll Dryer #4, identified as 41D4, constructed in 1993, with emissions uncontrolled, and exhausting to stack 94.

(26) One (1) Starch Roll Dryer #5, identified as 41D5, constructed in 1995, with emissions uncontrolled, and exhausting to stack 232.

(27) One (1) Starch Roll Dryer #6, identified as 41D6, constructed in 1995, with emissions uncontrolled, and exhausting to stack 233.

(28) One (1) Starch Roll Dryer #7, identified as 41D7, constructed in 1997, with emissions uncontrolled, and exhausting to stack 234.

(29) One (1) Starch Roll Dryer #8, identified as 41D8, constructed in 2000, with emissions uncontrolled, and exhausting to stack 235.

(30) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F200, constructed in 1986, with emissions controlled by product receiver/baghouse 41F200, and exhausting to the intake of mill 41G200.

(31) One (1) Roll Dryer Mill, identified as 41G200, constructed in 1986, with emissions controlled by integral product receiver/baghouse 41F210, and exhausting via vent 96 to stack 355.

(32) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F201, constructed in 1993, with emissions controlled by product receiver/baghouse 41F201, and exhausting to the intake of mill 41G201.

(33) One (1) Roll Dryer Mill, identified as 41G201, constructed in 1993, with emissions controlled by integral product receiver/baghouse 41F211, and exhausting via vent 100 to stack 355.

(34) One (1) Product Bin #10, identified as 41V10, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F10, and exhausting to stack 97.

(35) One (1) Product Bin #11, identified as 41V11, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F11, and exhausting to stack 98.

(36) One (1) Bulk Bag Dump Station, identified as 41F13, constructed in 2000, with emissions controlled by bin vent 41F13, and exhausting indoors to stack 344.

(37) One (1) Spray Dryer #1, identified as 30D1, constructed in 1984, with a heat input capacity of 24 MMBtu/hr, with emissions controlled by integral product collector/cyclones 30F7 and 30F8 and product receivers/baghouses 30F2 and 30F3, and exhausting to stack 82.

(38) One (1) Product Transfer to Bins #14 and #15, identified as 41C30, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F14 and 41F15, respectively, and exhausting via vent 85 to stack 355.

(39) One (1) Product Bin #14, identified as 41V14, constructed in 1987, with emissions controlled by bin vent 41F16, and exhausting to stack 87.

(40) One (1) Product Bin #15, identified as 41V15, constructed in 1987, with emissions controlled by bin vent 41F17, and exhausting to stack 88.

(41) One (1) Regular Starch Belt Dryer D4, identified as 16D4, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F26 and 17F78, and exhausting to stack 177.

(42) One (1) Special Starch Belt Dryer D5, identified as 16D5, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F27 and 17F79, and exhausting to stack 177.

(43) One (1) Belts Product Conveying Mill Product to Bins #3, #4, and #5, identified as 7F25, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F25, and exhausting to stack 103.

(44) One (1) Belts Product Conveying Mill Product to Bins #1, #2, and #3, identified as 7F26, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F26, and exhausting to stack 104.

(45) One (1) Product Bin #1, identified as 7V50, constructed in 1966, with emissions controlled by bin vent 7F73, and exhausting to stack 109.

(46) One (1) Product Bin #2, identified as 7V49, constructed in 1966, with emissions controlled by bin vent 7F72, and exhausting to stack 108.

(47) One (1) Product Bin #3, identified as 7V48, constructed in 1966, with emissions controlled by bin vent 7F71, and exhausting to stack 107.

(48) One (1) Product Bin #4, identified as 7V47, constructed in 1966, with emissions controlled by bin vent 7F70, and exhausting to stack 106.

(49) One (1) Product Bin #5, identified as 7V46, constructed in 1966, with emissions controlled by bin vent 7F69, and exhausting to stack 105.

(50) One (1) Spray Agglomeration System, identified as 50D101, constructed in 2001, with a heat input capacity of 6.2 MMBtu/hr, with emissions controlled by integral product collector/cyclones 50F111 and 50F112; and product receiver/baghouse 50F102, and exhausting via vent 349 to stack 361.

(51) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(52) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(53) One (1) Agglomeration Blender Receiver/Baghouse, identified as 50F106, loaded pneumatically via Pneumatic Conveyor, identified as Feed Blower 50C107, constructed in 2001, with emissions controlled by integral product collector/baghouse 50F106, and exhausting via vent 350 to stack 361.

(54) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by integral cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.

(55) One (1) Product Transfer to Milling, identified as 30F13, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F13, and exhausting to the intakes of bins 41V45, 41V46, 41V47, and 33V44.

(56) One (1) Dryer Mill, identified as 30G1, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F15, and exhausting via vent 84 to stack 360.

(57) One (1) Product Bin #45, identified as 41V45, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F45, and exhausting to stack 226.

(58) One (1) Product Bin #46, identified as 41V46, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F46, and exhausting to stack 255.

(59) One (1) Product Bin #47, identified as 41V47, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F47, and exhausting via vent 432.

(60) One (1) Starch Product Bin #44, identified as 33V44, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 1995, with emissions controlled by bin vent 33F44, and exhausting to stack 248.

(61) One (1) Starch Roll Dryer #301, identified as 19D301, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 405A and 405B.

(62) One (1) Starch Roll Dryer #302, identified as 19D302, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 406A and 406B.

(63) One (1) Starch Roll Dryer #303, identified as 19D303, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 407A and 407B.

(64) One (1) Roll Dryer Mill Feed Collector Baghouse, identified as 19F400, constructed in 2006, with emissions controlled by product collector/cyclone 19F400, and exhausting to the intake of Mill 19G401.

(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by integral product collector/baghouse 19F402, and exhausting to stack 366.

(66) One (1) Product Transfer to Bins #17 and #18, identified as 41C35, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F20 and 41F21, respectively, and exhausting via vent 86 to stack 355.

(67) One (1) Product Bin #17, identified as 41V17, constructed in 1987, with emissions controlled by bin vent 41F22, and exhausting to stack 89.

(68) One (1) Product Bin #18, identified as 41V18, constructed in 1987, with emissions controlled by bin vent 41F23, and exhausting to stack 90.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

(1) Product Storage Bin #46 (41V46),

(2) Roll Dryer System Mill (19G401),

(3) Product Transfer to Bins 14 & 15 (41C30),

(4) Product Transfer to Bins 17 & 18 (41C35),

(5) Product Bin 14 (41V14),

(6) Product Bin 15 (41V15),

(7) Product Bin 17 (41V17),

(8) Product Bin 18 (41V18),

(9) Product Storage Bin #45 (41V45),

(10) Product Storage Bin (33V44),

(11) Starch Grinder/Mill #1 (40G20),

(12) Starch Grinder/Mill #2 (40G21),

(13) Starch Product Bin #20 (7V20),

(14) Starch Product Bin #21 (7V21),

(15) Starch Product Bin #22 (7V22),

(16) Starch Product Bin #23 (7V23), and

(17) Product Bin #47 (41V47).

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouses	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
41V46	41F46	0.08	0.08
19G401	19F402	0.73	0.73
41C30	41F14 & 41F15	0.08	0.08
41C35	41F20 & 41F21	0.08	0.08
41V14	41F16	0.01	0.01
41V15	41F17	0.01	0.01
41V17	41F22	0.01	0.01
41V18	41F23	0.01	0.01
41V45	41F45	0.08	0.08
33V44	33F44	0.08	0.08
40G20	40F28	0.14	0.14
40G21	40F29	0.14	0.14
7V20	7F20	0.09	0.09
7V21	7F21	0.09	0.09
7V22	7F22	0.09	0.09
7V23	7F33	0.09	0.09
41V47	41F47	0.08	0.08

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) The opacity from the stack exhausts except for 40F28 and 40F29 shall not exceed 3%.

(5) The opacity from baghouses 40F28 and 40F29 shall not exceed 8%.

(b) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Spray Dryer #2 (46D200).

The BACT for PM and PM_{10} is the use of a baghouse, and:

(1) PM emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(3) PM emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(5) The opacity from the baghouse exhaust shall not exceed 8%.

(c) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Starch Flash Dryer #2 (40D20).

The BACT for PM and PM_{10} is the use of a scrubber, and:

(1) PM emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(2) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(3) PM emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(5) The opacity from the scrubber exhaust shall not exceed 8%.

(d) For the following emission unit, BACT for NO_x is the use of low-NO_x burners rated at 0.04 lb/MMBtu or less and shall not exceed the emission rate as given below:

	Lbs/hr
Starch Spray Dryer #2 (46D200)	1.0

(e) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.7.2 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)
Starch Flash Dryer #1 (40D1)	69	1.2
Pneumatic Product Transfer (40F7)	70	1.5
Starch Storage Bin #8 (7V8)	71	0.03
Starch Storage Bin #9 (7V9)	72	0.03

Compliance with the above limits will render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(1) PM emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

(2) PM_{10} emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

Compliance with the above limits, combined with the limited emissions from emission units 17Z03, 17F15, and 17V06 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 not applicable to emission unit 43V90.

(c) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003, the PM and PM_{10} emissions from emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Flash Dryer #3 (43D71)	265	7.54	7.54
Flash #3 Mill (40G88)	266	0.23	0.23
Starch Product Bins (7V34, 7V35, 7V91, 7V92)	268, 269, 345, 346	0.2 each	0.2 each

Compliance with the above limits, combined with the netting projects according to CP 157-4160-00003 and A 157-6170-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92.

(d) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003 and Significant Source Modification 157-30564-00003, the PM_{10} emissions from emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM_{10} Limit (lb/hr)
Roll Dryer 41F200 and Roll Dryer Mill 41G200	96 to 355	0.28
Product Bin #10 (41V10) and Product Bin #11 (41V11)	97 98	0.03

Emission Unit(s)	Stack(s)	PM_{10} Limit (lb/hr)
Roll Dryer 41F201 and Roll Dryer Mill 41G201	100 to 355	0.39
Bulk Bag Dump Station (41F13)	344	0.03
Spray Dryer (30D1)	82	4.45
Dryer Mill (30G1)	84	0.95

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41F8, 41F81, 41F82, and 41F6 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1.

(e) In order to render the requirements of 326 IAC 2-2 not applicable, the PM and PM_{10} emissions from emission units 50V111, 50V112, 50F106, and 50D101 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	350 to 361	0.10, total	0.10, total
Spray Agglomeration System (50D101)	349 to 361	1.10	1.10

Compliance with the above limits, combined with the limited emissions from emission units 7V91, 7V92, 41D8, and 41F13, will render the requirements of 326 IAC 2-2 not applicable to emission units 50V111, 50V112, 50F106, and 50D101.

(f) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 40D1, 7V8, 7V9, 43D71, 40G88, 7V34, 7V35, 7V91, 7V92, 50V111, 50V112, 50F106, and 50D101 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The PSD avoidance limits for PM in Conditions D.7.2(a), D.7.2(c), and D.7.2(e) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process

weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.7.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 43V90, 40F7, 25F1, 25G1, 16D4, 16D5, 7F25, 7F26, 7V50, 7V49, 7V48, 7V47, and 7V46 shall be limited as follows:

(a) The particulate emission rate from bin vent 43F90 shall not exceed 0.03 lb/hr. Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(b) and represents the PTE of the emission unit after control.

(b) The particulate emission rates from baghouses 7F25 and 7F26 shall not exceed 0.03 lb/hr, each.

(c) The particulate emission rate from baghouse 40F7 shall not exceed 0.15 lb/hr. Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(a) and represents the PTE of the emission unit after control.

(d) The particulate emission rate from baghouse 25F1 shall not exceed 0.05 lb/hr.

(e) The particulate emission rate from baghouse 25F2 shall not exceed 0.23 lb/hr.

(f) The particulate emission rates from scrubbers 16F26 and 17F78 shall not exceed 3.89 lb/hr, combined.

(g) The particulate emission rates from scrubbers 16F27 and 17F79 shall not exceed 3.89 lb/hr, combined.

(h) The particulate emission rates from bin vents 7F73, 7F72, 7F71, 7F70, and 7F69 shall not exceed 0.06 lb/hr, each.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.7.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and

(a) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(b) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71,

43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance Determination Requirements

D.7.5 Particulate Control

(a) In order to comply with Conditions D.7.1, D.7.2, and D.7.3, scrubbers 40F3, 40F26, 43F80, 16F26, 17F78, 16F27, and 17F79 for particulate control shall be in operation and control emissions from facilities 40D1, 40D20, 43D71, 16D4, and 16D5 at all times the respective facilities are in operation.

(b) In order to comply with Conditions D.7.1, D.7.2, and D.7.3, baghouses 40F7, 25F1, 25F2, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 30F2, 30F3, 41F14, 41F15, 7F25, 7F26, 50F102, 50F106, 46F231, 46F232, 30F15, 19F402, 41F20, and 41F21 for particulate control shall be in operation and control particulate emissions from emission units 40F7, 25F1, 25G1, 40G20, 40G21, 40G88, 41F200, 41G200, 41F201, 41G201, 30D1, 41C30, 7F25, 7F26, 50D101, 50V111, 50V112, 50F106, 46D200, 30G1, 19G401, and 41C35 at all times those emission units are in operation.

(c) In order to comply with Conditions D.7.1, D.7.2, and D.7.3, bin vents 43F90, 7F8, 7F9, 7F20, 7F21, 7F22, 7F23, 7F34, 7F35, 7F91, 7F92, 41F10, 41F11, 41F13, 41F16, 41F17, 7F73, 7F72, 7F71, 7F70, 7F69, 41F45, 41F46, 41F47, 33F44, 41F22, and 41F23 for particulate control shall be in operation and control particulate emissions from emission units 43V90, 7V8, 7V9, 7V20, 7V21, 7V22, 7V23, 40F27, 7V34, 7V35, 7V91, 7V92, 41V10, 41V11, 41F13, 41V14, 41V15, 7V50, 7V49, 7V48, 7V47, 7V46, 41V45, 41V46, 41V47, 33V44, 30F13, 41V17, and 41V18 at all times those facilities are in operation.

(d) In order to comply with Condition D.7.1(b), integral cyclones 46F221 through 46F224 shall be in operation and control particulate emissions from emission unit 46D200 at all times when the material feed system to emission unit 46D200 is in operation.

(e) In order to comply with Condition D.7.1(a), integral product collector/baghouse 19F402 shall be in operation and control particulate emissions from emission unit 19G401 at all times when the material feed system to emission unit 19G401 is in operation.

D.7.6 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature,

flow rate, air infiltration, leaks, dust traces, or triboflows.

D.7.7 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) In order to demonstrate compliance with Condition D.7.1(a), the Permittee shall perform PM and PM_{10} testing of emission unit 19G401 and one of the emission units 40G20 and 40G21 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(b) In order to demonstrate compliance with Condition D.7.1(b), not later than 180 days after the issuance of this permit, T157-27029-00003, the Permittee shall perform PM and PM_{10} testing of emission unit 46D200 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(c) In order to demonstrate compliance with Condition D.7.1(c), the Permittee shall perform PM and PM_{10} testing of emission unit 40D20 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(d) In order to demonstrate compliance with Conditions D.7.1(e) and D.7.4(a), the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.8 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stacks' 69, 73, 177, 265, 360, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 70, 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 104, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 366, and 432 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.9 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the recirculation rate from scrubber 40F26 continuously when emission unit 40D20 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 300 gallons per minute. If the 1-hr average flow rate falls below 300 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.1(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the recirculation rate from scrubber 43F80 continuously when emission unit 43D71 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above 300 gallons per minute. If the 1-hr average flow rate falls below 300 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The Permittee shall monitor and record the recirculation rate from scrubber 40F3 at least once per day when emission unit 40D1 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(a).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The Permittee shall monitor and record the recirculation rate from scrubbers 16F26, 17F78, 16F27, and 17F79 at least once per day when emission units 16D4 and 16D5 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.7.3(f) and D.7.3(g).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(e) The instruments used for determining the recirculation rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.7.10 Baghouse Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouses 30F2, 30F3, 46F231, and 46F232 used in conjunction with emission units 30D1 and 46D200 at least once per day when the respective emission units are in operation.

(b) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F15, and 50F102 used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, 41G200, 41G201, 19G401, 30G1, and 50D101 at least once per day when the respective emission units are in operation.

(c) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.7.11 Scrubber Failure Detection

In the event that scrubber failure for emission units 40D20, 43D71, 40D1, 16D4, and/or 16D5 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.7.12 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.13 Record Keeping Requirements

(a) To document the compliance status with Conditions D.7.1(e) and D.7.4, the Permittee shall maintain monthly records for propylated starch reactions that do not undergo the acid-kill step to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1,

40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303.

Note that this record is the same record as required in Condition D.5.14(a).

(b) To document the compliance status with Condition D.7.8, the Permittee shall maintain a daily record of visible emission notations of stacks 69, 73, 177, 265, 360, 361, 70, 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 104, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 366, and 432 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.7.9(a) and D.7.9(b), the Permittee shall maintain a daily record of the scrubber recirculation rates, as read by the continuous monitor, from scrubber 40F26 and scrubber 43F80 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(e) To document the compliance status with Conditions D.7.9(c) and D.7.9(d), the Permittee shall maintain a daily record of the scrubber recirculation rates from scrubbers 40F3, 16F26, 17F78, 16F27, and 17F79 controlling the Starch Drying and Handling Operation exhaust. The Permittee shall include in its daily record when a scrubber recirculation rate reading is not taken and the reason for the lack of a scrubber recirculation rate reading (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.7.10, the Permittee shall maintain a daily record of the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F210, 41F211, 19F402, 30F2, 30F3, 30F15, 46F231, 46F232, and 50F102 controlling the Starch Handling and Drying Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.7.14 Reporting Requirements

A quarterly report of the combined propylene oxide input to document the compliance status with Conditions D.7.1(e)(2) and D.7.4(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(h) Starch Packaging and Loadout Operations, consisting of:

(1) One (1) Product Bin #6/House Vacuum System, identified as 17V6, constructed in 1984, with emissions controlled by integral product receiver/cyclone 17F5 and baghouse 17F6, and exhausting via vent 190 to stack 177.

(2) One (1) Reprocess Bag Dump, identified as 17U58, constructed in 1997, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(4) One (1) Product Transfer to Main Packer #1, identified as 16F5, constructed in 1966, with emissions controlled by integral product collector/baghouse 16F5, and exhausting to stack 102.

(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by integral baghouse 17F27, and exhausting to stack 102.

(6) One (1) Packer #1, identified as 17Z38, constructed in 1966, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F10, and exhausting to stack 177.

(8) One (1) Bag Packer #2, identified as 17Z01, constructed in 1995, with emissions controlled by integral product collector/baghouse 17F01, and exhausting to stack 177.

(9) One (1) Bag Packer #2 House Dust Collector, identified as 17F02, constructed in 1995, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by integral baghouse 41F18, and exhausting via vent 186 to stack 355.

(12) One (1) Roll Dried Starch Products Bag Packer #3, identified as 41Z5, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(13) One (1) Spray Cook Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F7, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7, and exhausting via vent 184 to stack 355.

(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by integral baghouse 41F181, and exhausting via vent 184 to stack 355.

(15) One (1) Spray Cook/O.S. Starch Products Bag Packer #3, identified as 41Z3, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7 or baghouse 41F181, and exhausting via vent 184 to stack 355.

(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by integral baghouse 41F182, and exhausting via vent 428 to stack 355.

(17) One (1) Malto Products Bag Packer #3, identified as 41Z1, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by integral baghouse 41F183, and exhausting via vent 429 to stack 355.

(19) One (1) Dry Starch Reacted Products Bag Packer #3, identified as 41Z2, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(20) One (1) Bag Packer #3 House Dust Collector, identified as 41F186, constructed in 2007, with emissions controlled by baghouse 41F186, and exhausting via vent 430 to stack 355.

(21) One (1) Bag Packer #3 House Dust Collector, identified as 41F44, constructed in 1995, with emissions controlled by baghouse 41F44, and exhausting via vent 256 to stack 361.

(22) One (1) Bag Packer #4, identified as 17Z03, constructed in 1995, with emissions controlled by integral product collector/baghouses 17F03 and 17F04, and exhausting via vent 332 to stack 356.

(23) One (1) House Dust Collection System for Bag Packer #4, identified as 17F15, constructed in 1995, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(25) One (1) Product Transfer for Bulk Bagger #1 (16J44), identified as 16F25, constructed in 1988, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(26) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(27) One (1) Product Transfer for Bulk Bagger #2 (17Z14), identified as 17F14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(28) One (1) Bulk Bagger #2, identified as 17Z14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(29) One (1) Product Receiver for Bulk Bagger #3, identified as 41F8, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F8, and exhausting via vent 208 to stack 355.

(30) Two (2) Product Receivers for Bulk Bagger #3, identified as 41F81 and 41F82, constructed in 1997, with emissions controlled by integral product receiver/baghouses 41F81 and 41F82, and exhausting via vent 208 to stack 355.

(31) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

(32) One (1) Bulk #1 Product Screening System, identified as 20F1, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F1, and exhausting via vent 330 to stack 404.

(33) One (1) Bulk #2 Product Screening System, identified as 20F50, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F50, and exhausting via vent 331 to stack 404.

(34) One (1) Bulk Starch Rail Loadout #1 (Track #9), identified as 20F61, constructed in 1966, with emissions controlled by baghouse 20F61, and exhausting via vent 135 to stack 404.

(35) One (1) Bulk Starch Rail Loadout #2 (Track #10), identified as 20F60, constructed in 1993, with emissions controlled by baghouse 20F60, and exhausting via vent 79 to stack 404.

(36) One (1) Pneumatic Truck Loadout, identified as 20F78 and 20F79, constructed in 1997, with emissions controlled by baghouses 20F78 and 20F79, and exhausting via vent 264 to stack 404.

(37) One (1) Bulk Starch Rail Loadout #3 (J4), identified as 16F100, constructed in 1989, with emissions controlled by baghouse 16F100, and exhausting via vent 183 to stack 177.

(38) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 41F6, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F6, and exhausting to stack 189.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

(1) Bulk Starch Rail Loadout #2 (20F60);

(2) Packer #3 Product Receivers and Packers (41F7, 41F181, 41Z3, 41F18, 41Z5, 41F182, 41Z1, 41F183, and 41Z2); and

(3) Packer #3 House Dust Collector (41F186).

(b) For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(1) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
20F60	20F60	0.09	0.09
41F7	41F7	0.11	0.11
41F181	41F181		
41Z3	41F7 or 41F181		
41F18	41F18	0.11	0.11
41Z5	41F18		
41F182	41F182	0.11	0.11
41Z1	41F182		
41F183	41F183	0.11	0.11
41Z2	41F183		
41F186	41F186	0.65	0.65

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) The opacity from the stack exhausts shall not exceed 3%.

D.8.2 Avoidance Limits for PSD [326 IAC 2-2] [326 IAC 6-3-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4160-00003 and Significant Source Modification 157-30564-00003, the PM emissions from emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM limit (lb/hr)	PM_{10} limit (lb/hr)
Product receiver (17F01) for Bag Packer #2 (17Z01)	177	0.17	N/A
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Bulk Bagger #2 (17Z14), Product Transfer for Bulk Bagger #2 (17F14)	254	0.08, total	0.08, total
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0, total	1.0, total
Pneumatic Truck Loadout (20F78/20F79)	404	0.12, total	0.12, total

Compliance with the above limits, combined with the netting project according to CP 157-2993-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from 17Z03 (controlled by baghouses 17F03 and 17F04), 17F15, and 17V06 shall not exceed 2.2 pounds per hour, combined. Compliance with this limit, combined with the limited emissions from emission unit 43V90 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z03, 17F15, and 17V06.

(c) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003, A 157-6571-00003, and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Bulk Bagger #3 (41Z6), Bag Packer #3 House Dust Collector (41F44)	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44), Product Transfer for Bulk Bagger #1 (16F25)	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8, 41F81, and 41F82)	208 to 355	0.11	0.11
J-4 Starch Rail Loadout Collector (16F100)	183 to 177	0.17	0.17
33 Bldg. Starch Bulk Truck Loadout (41F6)	189	0.04	0.04

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41G200, 41V10, 41V11,

41G201, 41F13, 30D1, and 30G1 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6.

(d) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06 shall not exceed the emissions limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
House Dust Collector (17F10) for Bag Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	177	1.24, total	1.24, total
Bag Packer #2 House Dust Collector (17F02), Packer #2 Reject Bag Dump (17V05)	177	1.1, total	1.07, total
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	333	2.2, total	1.07, total

Compliance with the above limits, combined with the limited PM emissions from emission units 17F02 and 17V05, shall render the requirements of 326 IAC 2-2 not applicable to emission units 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06.

(e) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F78, 20F79, 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, 41F6, 17F10, 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The PSD avoidance limits for PM in Conditions D.8.2(a), D.8.2(c), and D.8.2(d) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.8.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 17V6, 16F5, 17F27, 17Z03, 20F1, 20F50, and 20F61 shall be limited as follows:

(a) The particulate emission rate from baghouse 17F6 shall not exceed 0.12 lb/hr.

(b) The particulate emission rates from baghouses 16F5 and 17F27 shall not exceed 0.13 lb/hr, combined.

(c) The particulate emission rates from baghouse 20F61 shall not exceed 0.17 lb/hr.

(d) The particulate emission rates from baghouses 17F03 and 17F04 shall not exceed 0.20 lb/hr, combined. Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(b) and represents the PTE of the emission unit after control.

(e) The particulate emission rates from baghouses 20F1 and 20F50 shall not exceed 0.15 lb/hr, each. Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(a) and represents the PTE of the emission unit after control.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.8.4 Particulate Control

(a) In order to comply with Conditions D.8.1, D.8.2, and D.8.3, baghouses 17F6, 17F58, 16F5, 17F27, 17F10, 17F01, 17F02, 41F18, 41F7, 41F181, 41F182, 41F183, 41F186, 41F44, 17F03, 17F04, 17F15, 16F25, 17F14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 for particulate control shall be in operation and control particulate emissions from emission units 17V6, 17U58, 17U59, 16F5, 17F27, 17Z38, 17V04, 17Z01, 17F02, 17V05, 41F18, 41Z5, 41F7, 41F181, 41Z3, 41F182, 41Z1, 41F183, 41Z2, 41F186, 41F44, 41Z6, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 at all times those emission units are in operation.

(b) In order to comply with Condition D.8.2(b), only one of the baghouses 17F03 and 17F04 for particulate control shall be in operation and control particulate emissions from emission unit 17Z03 at all times emission unit 17Z03 is in operation.

(c) In order to comply with Condition D.8.2(c), only one of the Product Receivers for Bulk Bagger #3 (41F8, 41F81, and 41F82) shall be in operation at any one time.

D.8.5 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.8.6 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In order to demonstrate compliance with Condition D.8.1(b), the Permittee shall perform PM and PM_{10} testing of emission unit 41F186 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.8.7 Visible Emissions Notations

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stack 177 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 102, 189, 254, 332, 333, 334, 355, 361, and 404 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(f) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.8.8 Baghouse Parametric Monitoring

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouse 17F10 used in conjunction with emission units 17Z38 and 17V04 at least once per day when the respective emission units are in operation.

(b) When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the normal range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and

shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.8.9 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.8.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.7, the Permittee shall maintain a daily record of visible emission notations of stacks 102, 177, 189, 254, 332, 333, 334, 355, 361, and 404 controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.8.8, the Permittee shall maintain a daily record of the pressure drop across baghouse 17F10 controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(i) Boiler Support Facilities, consisting of:

(1) One (1) Coal Storage Silo, identified as 31V3, constructed in 1984, with emissions controlled by bin vent 31F21, and exhausting to stack 203.

(2) One (1) Coal Day Bin, identified as 31V4, constructed in 1984, with emissions controlled by bin vent 31F19, and exhausting to stack 204.

(3) One (1) Coal Day Bin, identified as 31V5, constructed in 1984, with emissions controlled by bin vent 31F20, and exhausting to stack 205.

(4) One (1) GMH Storage Silo, identified as 9V32, loaded pneumatically via Pneumatic Conveyor, identified as 17C19, constructed in 1966, with emissions controlled by bin vent 9F32, and exhausting to stack 119.

(5) One (1) Boiler Ash Pneumatic Transfer to Ash Silo, identified as 31F10, constructed in 1984, with emissions controlled by baghouse 31F22 with ash steam exhauster 31Z3 and air washer 31Z5, and exhausting to stack 200.

(6) One (1) Boiler Ash Silo and Truck Loading, identified as 31V1, constructed in 1984, with emissions controlled by bin vent 31F1, and exhausting to stack 199.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

(a) The PM emissions from the coal/ash handling system facilities (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 0.51 pounds per hour, combined.

(b) The PM emissions from boiler 31B1 and the coal/ash handling system facilities (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(c) The particulate matter emissions from the coal/ash handling system facilities (31V1, 31F10, 31V3, 31V4, and 31V5) shall each be controlled by a baghouse providing at least 99.9% collection efficiency.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for emission units 31V1, 31F10, 31V3, 31V4, and 31V5.

D.9.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 31V3, 31V4, 31V5, 9V32, 31F10, and 31V1 shall be limited as follows:

(a) The particulate emission rate from bin vent 31F21 shall not exceed 0.10 lb/hr.

(b) The particulate emission rates from bin vents 31F19 and 31F20 shall not exceed 0.07 lb/hr, each.

(c) The particulate emission rate from bin vent 9F32 shall not exceed 0.03 lb/hr.

(d) The particulate emission rate from baghouse 31F22 shall not exceed 0.18 lb/hr.

(e) The particulate emission rate from bin vent 31F1 shall not exceed 0.09 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.9.3 Opacity [40 CFR 60, Subpart Y]

Pursuant to 40 CFR 60.254(a), an owner or operator subject to the provisions of NSPS, Subpart Y shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Compliance Determination Requirements

D.9.4 Particulate Control

(a) In order to comply with Conditions D.9.1 and D.9.2, baghouse 31F22 for particulate control shall be in operation and control particulate emissions from emission unit 31F10 at all times emission unit 31F10 is in operation.

(b) In order to comply with Conditions D.9.1 and D.9.2, bin vents 31F21, 31F19, 31F20, 9F32, and 31F1 for particulate control shall be in operation and control particulate emissions from emission units 31V3, 31V4, 31V5, 9V32, and 31V1 at all times those emission units are in operation.

D.9.5 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.9.6 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 60.254(a)]

In order to demonstrate compliance with Condition D.9.3, not later than 180 days after the issuance of this permit, T157-27029-00003, the Permittee shall perform opacity testing on the coal processing and conveying equipment, coal storage system, and coal transfer and loading system processing coal utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.9.7 Visible Emissions Notations

(a) Visible emission notations of the stacks' 119, 199, 200, 201, 203, 204, and 205 exhausts shall be performed once per day during normal daylight operations when the respective facilities are in operation. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.9.8 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.9.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.9.7, the Permittee shall maintain a daily record of visible emission notations of stacks' 119, 199, 200, 201, 203, 204, and 205 controlling the Boiler Support Facilities exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.10 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(j) Utility Area, consisting of:

(1) Three (3) natural gas-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) coal-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004, with a heat input capacity of 231 MMBtu/hr, equipped with low-NO_x burners, using natural gas or coal and starch mixture as supplement fuels, with emissions controlled by baghouse 31F2, and exhausting to stack 202.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.10.1 Prevention of Significant Deterioration: Best Available Control Technology [326 IAC 2-2-3]

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

(a) The controlled particulate matter (PM) emissions from boiler 31B1 shall not exceed 0.05 pounds per MMBtu heat input.

(b) The PM emissions from boiler 31B1 and the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(c) The sulfur dioxide (SO_2) emissions from boiler 31B1 shall not exceed 1.2 pounds per MMBtu heat input and 1,215 tons per 12 month consecutive period with compliance determined at the end of each month by burning low sulfur coal.

(d) The nitrogen oxides (NO_x) emissions from boiler 31B1 shall not exceed 0.7 pounds per MMBtu and 782 tons per 12 month consecutive period with compliance determined at the end of each month by boiler feed method and combustion techniques.

(e) The carbon monoxide (CO) emissions from boiler 31B1 shall not exceed 10.2 pounds per hour and 45 tons per 12 month consecutive period with compliance determined at the end of each month.

(f) The volatile organic compounds (VOC) emissions from boiler 31B1 shall not exceed 1.1 pounds per hour and 5 tons per 12 month consecutive period with compliance determined at the end of each month.

(g) Only one of the identical gas-fired boilers (11B1, 11B2, or 11B3) will be operated when the coal-fired boiler, 31B1, is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas/oil boilers. In no case will this period of time exceed eight (8) hours.

(h) In order to ensure compliance with (a) through (f) above, the total amount of coal consumed by boiler 31B1 and the average coal heating value shall be determined on a monthly basis with compliance determined, per twelve consecutive month period, at the end of each month.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for Boilers 11B1, 11B2, 11B3, and 31B1.

D.10.2 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-3(d)]

Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitation For Sources of Indirect Heating), the particulate matter emissions from boilers 11B1, 11B2, and 11B3, constructed in 1966, shall not exceed 0.8 pounds per MMBtu heat input, each.

D.10.3 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitation For Sources of Indirect Heating), the particulate matter emissions from boiler 31B1, constructed in 1985, shall not exceed 0.20 pounds per MMBtu heat input.

This limitation is based on the following equation:

$$Pt = 1.09 / Q^{0.26}$$

Where:
Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used (Q = 666 MMBtu/hr).

D.10.4 Sulfur Dioxide [326 IAC 7-1.1-2] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1-2(a)(1) (Sulfur Dioxide Emission Limitations), the sulfur dioxide emissions from boiler 31B1 shall not exceed 6.0 pounds per MMBtu heat input when combusting coal. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable. Compliance with Condition D.10.1(c) will ensure compliance with 326 IAC 7-1.1.

D.10.5 Opacity

The opacity from boiler 31B1 shall not exceed twenty percent (20%) for any three (3) consecutive six-minute average period.

Compliance Determination Requirements

D.10.6 Particulate Control

In order to comply with Conditions D.10.1 and D.10.3, baghouse 31F2 for particulate control shall be in operation and control particulate emissions from facility 31B1 at all times facility 31B1 is in operation.

D.10.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

D.10.8 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.10.1(a) and D.10.1(b), the Permittee shall perform PM testing of emission unit 31B1 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

D.10.9 Sulfur Dioxide (SO_2) Emissions Monitoring [326 IAC 3-5] [326 IAC 7-2-1(g)]

Pursuant to Agreed Order A-2439, A-3122, A-3147, and A-3186, the Permittee shall maintain, calibrate, and operate a continuous emission monitoring system (CEMS) for sulfur dioxide from boiler 31B1. This system shall be certified in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. A standard operating procedure detailing quality assurance/quality control activities shall be submitted to the department for approval in accordance with 326 IAC 3-5-4. Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5. The continuous emission monitor (CEM) results shall be used to determine compliance with the sulfur dioxide emissions limit on the basis of three-hour block periods. The continuous emission monitoring data shall be used to determine compliance with the sulfur dioxide emission limitations in Conditions D.10.1 and D.10.4 on the basis of three (3) hour block periods.

D.10.10 Nitrogen Oxides (NO_x) Emissions Monitoring [326 IAC 3-5] [326 IAC 3-5-1(d)]

The Permittee shall maintain, calibrate, and operate a continuous emission monitoring system (CEMS) for nitrogen oxides from boiler 31B1. This system shall be certified in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. A standard operating procedure detailing quality assurance/quality control activities shall be submitted to the department for approval in accordance with 326 IAC 3-5-4. Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5. The continuous emission monitor (CEM) results shall be used to determine compliance with the nitrogen oxides emissions limit on the basis of a 30-day rolling average emission rate calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding thirty (30) steam generating unit operating days. The continuous emission monitoring data shall be used to determine compliance with the nitrogen oxide emission limitations in Conditions D.10.1 on the basis of a 30-day rolling average emission rate calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding thirty (30) steam generating unit operating days.

D.10.11 Continuous Opacity Monitoring [326 IAC 3-5]

Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions) and 326 IAC 2, the Permittee shall maintain, calibrate, and operate a continuous monitoring system to measure the opacity of the exhaust from boiler 31B1. The continuous opacity monitoring system shall meet the performance specifications of 326 IAC 3-5-2.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.10.12 Opacity Readings [40 CFR 64]

Compliance with the applicable opacity limitation in Condition D.10.5 shall be monitored by continuously measuring and recording the opacity of emissions from the stack exhaust. The opacity shall be determined by the certified continuous opacity monitor required in Condition D.10.11. If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.10.13 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

(b) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a COMS is malfunctioning or will be down for maintenance, or repairs for a period of twenty-four (24) hours or more, a backup COMS is not online within twenty-four (24) hours of shutdown of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(3) Method 9 readings may be discontinued once a COMS is online.

(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5.

D.10.14 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment in accordance with applicable federal regulations and 326 IAC 3-5.

(b) The CEMS shall be operated at all times, except during CEMS malfunctions, reasonable periods of necessary CEMS calibration, or CEMS maintenance activities. CEMS

calibration and maintenance activities shall be properly documented and shall be conducted pursuant to the standard operating procedures under 326 IAC 3-5-4(a).

(c) The Permittee shall keep records in accordance with 326 IAC 3-5-6(b) that includes the following:

(1) All documentation relating to:

(A) Design, installation, and testing of all elements of the monitoring system, and

(B) Required corrective action or compliance plan activities.

(2) All maintenance logs, calibration checks, and other required quality assurance activities,

(3) All records of corrective and preventive action,

(4) A log of plant operations, including the following:

(A) Date of facility downtime,

(B) Time of commencement and completion of each downtime, and

(C) Reason for each downtime.

(d) In accordance with 326 IAC 3-5-7(5), the Permittee shall submit reports of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately. The reports shall include the following:

(1) Date of downtime,

(2) Time of commencement,

(3) Duration of each downtime,

(4) Reasons for each downtime, and

(5) Nature of system repairs and adjustments.

(e) Except where permit conditions streamline similar applicable requirements pursuant to 326 IAC 2-7-24, nothing in this permit shall excuse the Permittee from complying with 326 IAC 3-5.

D.10.15 SO_2 Monitor Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(1)]

Whenever the SO_2 CEMS is down for more than twenty-four (24) hours, a calibrated backup CEMS shall be brought online within twenty-four (24) hours of shutdown of the primary CEMS, if possible. If this is not possible, a fuel analysis, pursuant to 326 IAC 3-7-2(a) or (b), shall be conducted to allow for determination of compliance with all SO_2 emission limits.

D.10.16 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the

applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.17 Record Keeping Requirements

(a) To document the compliance status with Condition D.10.1, the Permittee shall maintain monthly records of the heating value and amount of coal consumed by boiler 31B1.

(b) To document the compliance status with Condition D.10.9 and D.10.10, the Permittee shall maintain records of the continuous emission monitoring data for SO_2 and NO_x in accordance with 326 IAC 3-5.

(c) To document the compliance status with Condition D.10.12, the Permittee shall maintain records of the continuous opacity monitoring data in accordance with 326 IAC 3-5. Records shall be complete and sufficient to establish compliance with the limits established in this section.

(d) To document the compliance status with Condition D.10.13, when the COMS is not functioning, the Permittee shall maintain records of visible emissions notations of the stack exhaust.

(e) To document the compliance status with Conditions D.10.14 and D.10.15, when the CEMS is not functioning, the Permittee shall maintain records of instrument downtime and fuel analysis.

(f) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.10.18 Reporting Requirements

(a) The natural gas fired boiler certification shall be submitted not later than thirty (30) days after the end of the six (6) month period being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

(b) A certification, signed by the responsible official, shall be submitted that certifies all of the fuels combusted during the twelve month period.

(c) A quarterly report of the boiler 31B1 emissions and coal consumption to document the compliance status with Condition D.10.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

(d) A monitoring report for boiler 31B1 excess emissions and continuous emission monitor downtime shall be submitted not later than thirty (30) days after the end of the quarter being reported. The report shall include all coal boiler 31B1 continuous monitors required to be operated under 326 IAC 3-5 and shall be prepared in accordance with IAC 3-5-7. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.11 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(k) One (1) Wastewater Treatment Anaerobic Digester, identified as 34V10, constructed in 1985. Biogas emissions can be:

(1) Controlled by the use of an alkaline scrubber, identified as 34V11, for controlling H_2S emissions; and

(A) Used as fuel in fiber flash dryer furnace 21B501; and/or

(B) Used as fuel in gluten flash dryer 48D101; and/or

(C) Combusted in one (1) main flare (21Z1), exhausting to stack 271, if the biogas produced exceeds these emissions units' capacity;

or

(2) Combusted in one (1) emergency flare (34Z1), exhausting to stack 272.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Prevention of Significant Deterioration [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3, the SO_2 BACT for emission unit 34V10 shall be the use of alkaline scrubber 34V11; and

(a) The scrubber shall have a minimum H_2S control efficiency of 90%, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr of H_2S) in the scrubber outlet, when the inlet H_2S concentration to the scrubber is more than 1.1% by volume.

(b) The scrubber shall have an outlet H_2S concentration of less than 0.11% by volume, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr H_2S) in the scrubber outlet if the inlet concentration of H_2S is 1.1% by volume or less.

(c) To determine compliance with Condition D.11.1(a) and (b), the hydrogen sulfide content of the untreated biogas, the hydrogen sulfide content of the biogas treated by the biogas scrubber (34V11), the temperature of the biogas at the time of testing, and the total amount of biogas treated by the scrubber (34V11) shall be measured on a daily basis and used to calculate an average hourly sulfur dioxide emission rate and scrubber removal efficiency. If the biogas is directed to the emergency flare (34Z1), the hydrogen sulfide content of the untreated biogas, the temperature of the untreated biogas at the time of testing, and the total amount of untreated biogas burned by the emergency flare (34Z1) shall be measured on a daily basis and used to calculate a daily sulfur dioxide emission rate.

(d) The Permittee shall notify the IDEM, OAQ within two working days of any period if any H_2S is emitted directly to the atmosphere without being burned.

Compliance Determination Requirements

D.11.2 Hydrogen Sulfide (H_2S)

In order to comply with Condition D.11.1:

(a) Scrubber 34V11 for H_2S control shall be in operation and control emissions from emission unit 34V10 at all times when emission unit 34V10 is producing biogas and the biogas is used as fuel in fiber flash dryer furnace 21B501 and gluten flash dryer 48D101.

(b) Main flare 21Z1 for H_2S control shall be in operation and control emissions from scrubber 34V11 at all times when biogas is routed to scrubber 34V11 and is not used as fuel in fiber flash dryer furnace 21B501 and/or gluten flash dryer 48D101.

(c) Emergency flare 34Z1 for H_2S control shall be in operation and combust the biogas at all times when biogas is vented to it, and:

(1) The amount of biogas produced by emission unit 34V10 exceeds the capacities of fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and main flare 21Z1, or

(2) Inspection or maintenance of scrubber 34V11 or blowers occurs that requires biogas from emission unit 34V10 be isolated to allow that maintenance to be performed safely.

D.11.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.11.1, the Permittee shall perform H_2S testing on the inlet and outlet of scrubber 34V11 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. All hydrogen sulfide measured will be assumed to have been converted to sulfur dioxide in flares 21Z1 and 34Z1, fiber flash dryer furnace 21B501, and gluten flash dryer 48D101.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.11.4 Flare Pilot Flame

The presence of a flare pilot flame (for flares 21Z1 and 34Z1) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.

D.11.5 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor and record the pH across scrubber 34V11 at least once per day when digester 34V10 is in operation.

(1) When, for any one reading, the pH across the scrubber is outside ~~of~~ the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 9 and 11.5 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

(2) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A pH reading that is outside the above mentioned range is not a deviation from this

permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall monitor and record the recirculation rate from scrubber 34V11 continuously when emission unit 34V10 is in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.11.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(c) The instruments used for determining the flow rate and pH shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.

D.11.6 Scrubber Failure Detection

In the event that scrubber failure for emission unit 34V10 has been observed:

The biogas shall be routed to the emergency flare (34Z1) immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.11.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.1, the Permittee shall maintain:

(1) A log of the daily H_2S content before and after scrubber 34V11, temperature, and the total amount of the biogas burned in main flare 21Z1, fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and emergency flare 34Z1.

(2) Records of all calculations used to determine the SO_2 emissions from the combustion of biogas in main flare 21Z1, fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and emergency flare 34Z1.

(b) To document the compliance status with Condition D.11.5, the Permittee shall maintain a daily record of the pH and scrubber recirculation rate from scrubber 34V11 controlling the Wastewater Treatment Anaerobic Digester exhaust. The Permittee shall include in its

daily record when a pH or scrubber recirculation rate reading is not taken and the reason for the lack of a pH or scrubber recirculation rate reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.12 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] [326 IAC 8-4-9]

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables. [326 IAC 6-3-2]

(w) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3-2]

(ff) Vents from ash transport systems not operated at positive pressure. [326 IAC 6-3-2]

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

Building 41 --- Roll Dryers:
41 Building House Vacuum System, identified as 41F133. [326 IAC 6-3-2]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.12.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the brazing equipment, cutting torches, soldering equipment, welding equipment, structural steel and bridge fabrication activities, coal bunker and coal scale exhausts and associated dust collector vents, vents from ash transport systems not operated at positive pressure, and the 41 Building House Vacuum System (41F133) shall not exceed a pound per hour emission rate established as E in the following formulas:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

D.12.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements; and

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.12.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the Permittee of a cold cleaner degreaser facility, construction of which commenced after July 1, 1990, shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system;

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b);

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing; and

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater;

(B) A water cover when solvent is used is insoluble in, and heavier than, water; and

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the Permittee of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser;

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases; and

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.12.4 Avoidance Limit for VOC [326 IAC 8-4-6] [326 IAC 8-4-9]

In order to render the requirements of 326 IAC 8-4-6 and 326 IAC 8-4-9 not applicable to the storage tank identified as Tank #3, the monthly gasoline throughput from Tank #3 shall not exceed 10,000 gallons per month. Compliance with the above limit will render the requirements of 326 IAC 8-4-6 and 326 IAC 8-4-9 not applicable to Tank #3.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.12.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.12.4, the Permittee shall maintain monthly records of gasoline throughput from the storage tank identified as Tank #3.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(c) Feed/Meal/Germ Production Operations, consisting of:

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, constructed in 2007, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for the fiber flash dryer furnace 21B501 except as otherwise specified in 40 CFR Part 60, Subpart Dc.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]

The Permittee which engages in steam generation shall comply with the following provisions of 40 CFR Part 60, Subpart Dc, which are incorporated by reference as 326 IAC 12 (included as Attachment A of this permit):

(a) 40 CFR 60.40c(a), (b), (c), (d);
(b) 40 CFR 60.41c; and
(c) 40 CFR 60.48c(a), (g), (i).

SECTION E.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

(i) Boiler Support Facilities, consisting of:

(1) One (1) Coal Storage Silo, identified as 31V3, constructed in 1984, with emissions controlled by bin vent 31F21, and exhausting to stack 203. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(2) One (1) Coal Day Bin, identified as 31V4, constructed in 1984, with emissions controlled by bin vent 31F19, and exhausting to stack 204. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(3) One (1) Coal Day Bin, identified as 31V5, constructed in 1984, with emissions controlled by bin vent 31F20, and exhausting to stack 205. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

Insignificant Activities

(ii) Facilities in coal preparation plants, including:

(1) One (1) Coal Truck Dump Hopper, identified as 31V2, constructed in 1984, with emissions uncontrolled.

(2) One (1) Coal Bucket Elevator, identified as 31U3, constructed in 2009, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(3) One (1) Coal Bucket Elevator, identified as 31U4, constructed in 2008, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(4) One (1) Coal Feed Conveyor, identified as 31U5, constructed in 1984, with emissions uncontrolled, and exhausting to Silo 31V3 and Bins 31V4 and 31V5.

(5) One (1) Coal Pulverizer, identified as 31G3, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

(6) One (1) Coal Pulverizer, identified as 31G4, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

Under 40 CFR 60, Subpart Y, these are considered existing affected sources.
[40 CFR 60, Subpart Y]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.2.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for the coal preparation facilities except as otherwise specified in 40 CFR Part 60, Subpart Y.

(b) Pursuant to 40 CFR 60.19, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 New Source Performance Standards for Coal Preparation Plants [40 CFR Part 60, Subpart Y]

The Permittee which engages in coal preparation shall comply with the following provisions of 40 CFR Part 60, Subpart Y, which are incorporated by reference as 326 IAC 12 (included as Attachment B of this permit):

(a) 40 CFR 60.250;
(b) 40 CFR 60.251;
(c) 40 CFR 60.252(c); and
(d) 40 CFR 60.254(a), (b)(2).

SECTION E.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

Insignificant Activities

(jj) Propylene oxide storage tank and associated distribution system, including

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source.
[40 CFR 63, Subpart EEEE]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.3.1 General Provisions Relating to NESHAP EEEE [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.2330, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR 63, Subpart EEEE in accordance with Table 12 in 40 CFR Part 63, Subpart EEEE.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.3.2 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) [40 CFR Part 63, Subpart EEEE] [326 IAC 20-83]

The Permittee which engages in the distribution of non-gasoline organic liquids shall comply with the following provisions of 40 CFR Part 63, Subpart EEEE (included as Attachment C of this permit):

(a) 40 CFR 63.2330;
(b) 40 CFR 63.2334(a);
(c) 40 CFR 63.2338(a), (b), (c), (f);
(d) 40 CFR 63.2342(b)(1), (d);
(e) 40 CFR 63.2343(b), (c), (d);
(f) 40 CFR 63.2350;
(g) 40 CFR 63.2382(a), (b)(1);
(h) 40 CFR 63.2386(a), (b), (c)(1), (c)(2), (c)(3), (c)(4), (c)(10)(i), (d)(4);
(i) 40 CFR 63.2390(a), (d);
(j) 40 CFR 63.2394;
(k) 40 CFR 63.2398;
(l) 40 CFR 63.2402;
(m) 40 CFR 63.2406;
(n) Table 1 to Subpart EEEE of Part 63; and
(o) Table 11 to Subpart EEEE of Part 63.

SECTION E.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

Insignificant Activities

(cc) Emergency generators as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment Generator, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63, Subpart ZZZZ]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.4.1 General Provisions Relating to NESHAP ZZZZ [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.6580, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR 63, Subpart ZZZZ in accordance with Table 8 in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee which engages in the use of a reciprocating internal combustion engine shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit):

(a) 40 CFR 63.6580;
(b) 40 CFR 63.6585(a), (b);
(c) 40 CFR 63.6590(a)(1)(ii);
(d) 40 CFR 63.6595(a)(1), (c);
(e) 40 CFR 63.6602;
(f) 40 CFR 63.6605;
(g) 40 CFR 63.6612;
(h) 40 CFR 63.6620;
(i) 40 CFR 63.6625(e)(2), (f), (h), (i), (j);
(j) 40 CFR 63.6635;
(k) 40 CFR 63.6640(a), (b), (f)(1);
(l) 40 CFR 63.6645(a)(5);

(m) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(n) 40 CFR 63.6655(a), (d), (e)(2), (f)(1);
(o) 40 CFR 63.6660;
(p) 40 CFR 63.6665;
(q) 40 CFR 63.6670;
(r) 40 CFR 63.6675;
(s) Table 2c to 40 CFR 63 Subpart ZZZZ;
(t) Table 4 to 40 CFR 63 Subpart ZZZZ; and
(u) Table 6 to 40 CFR 63 Subpart ZZZZ.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

PART 70 OPERATING PERMIT
SEMI-ANNUAL NATURAL GAS FIRED BOILER CERTIFICATION

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Report period

Beginning: _____

Ending: _____

Boiler Affected	Alternate Fuel	Days burning alternate fuel From	To

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Parameters: PM, SO_2, and NO_x emissions
Coal consumption and average coal heating value
Limits: Total PM emissions not to exceed 56.0 tons per year
SO_2 emissions not to exceed 1,215 tons per 12 month consecutive period
NO_x emissions not to exceed 782 tons per 12 month consecutive period
Coal consumed and average coal heating value determined on a monthly basis

Months: _____ to _____ Year: _____

Permit Condition						
D.10.1(i)	Coal	Consumption	tons			
		Average Heating Value	Btu/lb			
D.10.1(a)	PM	Emission Factor	lb/MMBtu	0.05	0.05	0.05
		Emissions - This Month	tons			
		Emissions - Previous 11 Months	tons			
		Emissions - 12 Month Total	tons			
D.10.1(c)	SO_2	Emission Factor	lb/MMBtu	1.2	1.2	1.2
		Emissions - This Month	tons			
		Emissions - Previous 11 Months	tons			
		Emissions - 12 Month Total	tons			
D.10.1(d)	NO_x	Emission Factor	lb/MMBtu	0.7	0.7	0.7
		Emissions - This Month	tons			
		Emissions - Previous 11 Months	tons			
		Emissions - 12 Month Total				
D.10.1(e)	CO	Emission Factor	lb/ton coal	0.5	0.5	0.5
		Emissions - This Month	tons			
		Emissions - Previous 11 Months	tons			
		Emissions - 12 Month Total	tons			
D.10.1(f)	VOC	Emission Factor	lb/ton coal	0.06	0.06	0.06
		Emissions - This Month	tons			
		Emissions - Previous 11 Months	tons			
		Emissions - 12 Month Total	tons			

Notes:
PM, SO_2, and NO_x emission factors are based on permit limits
CO and VOC emission factors were taken from AP-42 Supplement E (9/98)
PM, SO_2, and NO_x Emissions (tons/month) = (Coal consumption)*(Average Coal Heating Value)*(Emission Factor)/10^6
CO and VOC Emissions (tons/month) = (Coal consumption)*(Emission Factor)/2000

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, IN 47904
Part 70 Permit No.: T157-27029-00003
Facility: Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303

Parameter: Propylene oxide (PO) input for propylated starch reactions that do not undergo the acid-kill step

Limit: Fifteen hundred (1,500) tons propylene oxide per twelve consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	VOC Usage This Month	VOC Usage Previous 11 Months	VOC Usage 12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Tate & Lyle Ingredients Americas LLC
Source Address: 2245 North Sagamore Parkway, Lafayette, Indiana 47904
Part 70 Permit No.: T157-27029-00003

Months: _____ to _____ Year: _____

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C – General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Attachment A
to Part 70 Operating Permit No. T157-27029-00003

Tate & Lyle Ingredients Americas LLC
2245 North Sagamore Parkway, Lafayette, IN 47904

Title 40: Protection of Environment
Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraph (d) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, §60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO_2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in §60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under §60.14.

(e) Heat recovery steam generators that are associated with combined cycle gas turbines and meet the applicability requirements of subpart GG or KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/hr) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part).

(f) Any facility covered by subpart AAAA of this part is not covered by this subpart.

(g) Any facility covered by an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not covered by this subpart.

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the

combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat including but not limited to solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Cogeneration steam generating unit means a steam generating unit that simultaneously produces both electrical (or mechanical) and thermal energy from the same primary energy source.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under §60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means: (1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or (2) liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO_2 emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Wet flue gas desulfurization technology means an SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently

converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

§ 60.42c Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2 emissions limit or the 90 percent SO_2 reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO_2 emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2 reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/hr) or less.

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area.

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the following:

(1) The percent of potential SO_2 emission rate or numerical SO_2 emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/hr); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s= SO_2 emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (1.2 lb/MMBtu);

K_b= 260 ng/J (0.60 lb/MMBtu);

K_c= 215 ng/J (0.50 lb/MMBtu);

H_a= Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b= Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

$H_cK_aH_b$= Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), or (3) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) Only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or

combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/hr) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2 emissions is not subject to the PM limit in this section.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and §60.8(b), performance tests required under §60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under §60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2 emission limits under §60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and §60.8, compliance with the percent reduction requirements and SO_2 emission limits under §60.42c is based on the average percent reduction and the average SO_2 emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2 emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2 emission rate (E_{ho}) and the 30-day average SO_2 emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate $E_{ao}$when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho}(E_{ho}o) is used in Equation 19–19 of Method 19 of appendix A of this part to compute the adjusted E_{ao}(E_{ao}o). The E_{ho}o is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

$E_{ho}o$ = Adjusted E_{ho}, ng/J (lb/MMBtu);

E_{ho}= Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w= SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_w$if the owner or operator elects to assume E_w= 0.

X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of §60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters $E_w$or $X_k$if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under §60.42c(a) or (b) shall determine compliance with the SO_2 emission limits under §60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2 emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$= Potential SO_2 emission rate, in percent;

$\%R_g$= SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$= SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$($\%R_g$o) is computed from E_{ao}o from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate (E_{ai}o) using the following formula:

$$\%R_g o = 100\left(1 - \frac{E^{\circ}_{ao}}{E^{\circ}_{ai}}\right)$$

Where:

$\%R_g o$ = Adjusted $\%R_g$, in percent;

$E_{ao}o$ = Adjusted E_{ao}, ng/J (lb/MMBtu); and

$E_{ai}o$ = Adjusted average SO_2 inlet rate, ng/J (lb/MMBtu).

(ii) To compute $E_{ai}o$, an adjusted hourly SO_2 inlet rate ($E_{hi}o$) is used. The $E_{hi}o$ is computed using the following formula:

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

$E_{hi}o$ = Adjusted E_{hi}, ng/J (lb/MMBtu);

E_{hi}= Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w= SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value $E_w$for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure $E_w$if the owner or operator elects to assume E_w= 0; and

X_k= Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under §60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under §60.46c(d)(2).

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification, the certification from the fuel supplier, as described under §60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under §60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$and E_{ho}under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under §60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$or E_{ho}pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under §60.43c shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3 of appendix A of this part shall be used for gas analysis when applying Method 5, 5B, or 17 of appendix A of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O_2or CO_2measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A of this part (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under §60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam

generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with EPA Reference Method 5, 5B, or 17 of appendix A of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using EPA Method 5, 5B, or 17 of appendix A of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(13) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (d)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (d)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (d)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2(or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and the test methods specified in paragraph (d)(7)(i) of this section.

(i) For PM, EPA Reference Method 5, 5B, or 17 of appendix A of this part shall be used.

(ii) For O_2(or CO_2), EPA reference Method 3, 3A, or 3B of appendix A of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under §60.43c(e)(4) shall follow the applicable procedures under §60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/hr).

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2 emission limits under §60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2 concentrations and either O_2or CO_2concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under §60.42c shall measure SO_2 concentrations and either O_2 or CO_2 concentrations at both the inlet and outlet of the SO_2 control device.

(b) The 1-hour average SO_2 emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.42c. Each 1-hour average SO_2 emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under §60.13(h)(2). Hourly SO_2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under §60.42c, the span value of the SO_2 CEMS at the inlet to the SO_2 control device shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted, and the span value of the SO_2 CEMS at the

outlet from the SO_2 control device shall be 50 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of §60.42c, the span value of the SO_2 CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2 at the inlet or outlet of the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system.

(b) All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.06 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO_2 or PM emissions are not required to operate a CEMS for measuring opacity if they follow the applicable procedures under §60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS monitor instead of monitoring opacity must calibrate, maintain, and operate a CEMS, and record the output of the system, for PM emissions discharged to the atmosphere as specified in §60.45c(d). The CEMS specified in paragraph §60.45c(d) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) An affected facility that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS for measuring opacity. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section.

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. At least two data points per hour must be used to calculate each 1-hour average.

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An affected facility that burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the appropriate delegated permitting authority is not required to operate a COMS for measuring opacity. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §60.42c, or §60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO_2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2 emission limits of §60.42c, or the PM or opacity limits of §60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) The owner or operator of each coal-fired, oil-fired, or wood-fired affected facility subject to the opacity limits under §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period.

(d) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO_2 emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2 or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emissions standard

(excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO_2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under §60.42c or §60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

Attachment B
to Part 70 Operating Permit No. T157-27029-00003

Tate & Lyle Ingredients Americas LLC
2245 North Sagamore Parkway, Lafayette, IN 47904

Title 40: Protection of Environment
Subpart Y— New Source Performance Standards for Coal Preparation Plants

Source: 74 FR 51977, Oct. 8, 2009, unless otherwise noted.

§ 60.250 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to affected facilities in coal preparation and processing plants that process more than 181 megagrams (Mg) (200 tons) of coal per day.

(b) The provisions in §60.251, §60.252(a), §60.253(a), §60.254(a), §60.255(a), and §60.256(a) of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after October 27, 1974, and on or before April 28, 2008: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(c) The provisions in §60.251, §60.252(b)(1) and (c), §60.253(b), §60.254(b), §60.255(b) through (h), §60.256(b) and (c), §60.257, and §60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after April 28, 2008, and on or before May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), and coal storage systems, transfer and loading systems.

(d) The provisions in §60.251, §60.252(b)(1) through (3), and (c), §60.253(b), §60.254(b) and (c), §60.255(b) through (h), §60.256(b) and (c), §60.257, and §60.258 of this subpart are applicable to any of the following affected facilities that commenced construction, reconstruction or modification after May 27, 2009: Thermal dryers, pneumatic coal-cleaning equipment (air tables), coal processing and conveying equipment (including breakers and crushers), coal storage systems, transfer and loading systems, and open storage piles.

§ 60.251 Definitions.

As used in this subpart, all terms not defined herein have the meaning given them in the Clean Air Act (Act) and in subpart A of this part.

(a) *Anthracite* means coal that is classified as anthracite according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(b) *Bag leak detection system* means a system that is capable of continuously monitoring relative particulate matter (dust loadings) in the exhaust of a fabric filter to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

(c) *Bituminous coal* means solid fossil fuel classified as bituminous coal by ASTM D388 (incorporated by reference— *see* §60.17).

(d) *Coal* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference— *see* §60.17).

(2) For units constructed, reconstructed, or modified after May 27, 2009, all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by ASTM D388 (incorporated by reference— *see* §60.17), and coal refuse.

(e) *Coal preparation and processing plant* means any facility (excluding underground mining operations) which prepares coal by one or more of the following processes: breaking, crushing, screening, wet or dry cleaning, and thermal drying.

(f) *Coal processing and conveying equipment* means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts. Equipment located at the mine face is not considered to be part of the coal preparation and processing plant.

(g) *Coal refuse* means waste products of coal mining, physical coal cleaning, and coal preparation operations (*e.g.* culm, gob, *etc.*) containing coal, matrix material, clay, and other organic and inorganic material.

(h) *Coal storage system* means any facility used to store coal except for open storage piles.

(i) *Design controlled potential PM emissions rate* means the theoretical particulate matter (PM) emissions (Mg) that would result from the operation of a control device at its design emissions rate (grams per dry standard cubic meter (g/dscm)), multiplied by the maximum design flow rate (dry standard cubic meter per minute (dscm/min)), multiplied by 60 (minutes per hour (min/hr)), multiplied by 8,760 (hours per year (hr/yr)), divided by 1,000,000 (megagrams per gram (Mg/g)).

(j) *Indirect thermal dryer* means a thermal dryer that reduces the moisture content of coal through indirect heating of the coal through contact with a heat transfer medium. If the source of heat (the source of combustion or furnace) is subject to another subpart of this part, then the furnace and the associated emissions are not part of the affected facility. However, if the source of heat is not subject to another subpart of this part, then the furnace and the associated emissions are part of the affected facility.

(k) *Lignite* means coal that is classified as lignite A or B according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(l) *Mechanical vent* means any vent that uses a powered mechanical drive (machine) to induce air flow.

(m) *Open storage pile* means any facility, including storage area, that is not enclosed that is used to store coal, including the equipment used in the loading, unloading, and conveying operations of the facility.

(n) *Operating day* means a 24-hour period between 12 midnight and the following midnight during which coal is prepared or processed at any time by the affected facility. It is not necessary that coal be prepared or processed the entire 24-hour period.

(o) *Pneumatic coal-cleaning equipment* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, any facility which classifies bituminous coal by size or separates bituminous coal from refuse by application of air stream(s).

(2) For units constructed, reconstructed, or modified after May 27, 2009, any facility which classifies coal by size or separates coal from refuse by application of air stream(s).

(p) *Potential combustion concentration* means the theoretical emissions (nanograms per joule (ng/J) or pounds per million British thermal units (lb/MMBtu) heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems, as determined using Method 19 of appendix A–7 of this part.

(q) *Subbituminous coal* means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials in ASTM D388 (incorporated by reference, *see* §60.17).

(r) *Thermal dryer* means:

(1) For units constructed, reconstructed, or modified on or before May 27, 2009, any facility in which the moisture content of bituminous coal is reduced by contact with a heated gas stream which is exhausted to the atmosphere.

(2) For units constructed, reconstructed, or modified after May 27, 2009, any facility in which the moisture content of coal is reduced by either contact with a heated gas stream which is exhausted to the atmosphere or through indirect heating of the coal through contact with a heated heat transfer medium.

(s) *Transfer and loading system* means any facility used to transfer and load coal for shipment.

§ 60.252 Standards for thermal dryers.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified on or before April 28, 2008, subject to the provisions of this subpart must meet the requirements in paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which contain PM in excess of 0.070 g/dscm (0.031 grains per dry standard cubic feet (gr/dscf)); and

(2) The owner or operator shall not cause to be discharged into the atmosphere from the thermal dryer any gases which exhibit 20 percent opacity or greater.

(b) Except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after April 28, 2008, subject to the provisions of this subpart must meet the applicable standards for PM and opacity, as specified in paragraph (b)(1) of this section. In addition, and except as provided in paragraph (c) of this section, on and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of a thermal dryer constructed, reconstructed, or modified after May 29, 2009, subject to the provisions of this subpart must also meet the applicable standards for sulfur dioxide (SO_2), and combined nitrogen oxides (NO_X) and carbon monoxide (CO) as specified in paragraphs (b)(2) and (b)(3) of this section.

(1) The owner or operator must meet the requirements for PM emissions in paragraphs (b)(1)(i) through (iii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed or reconstructed after April 28, 2008, the owner or operator must meet the requirements of (b)(1)(i)(A) and (b)(1)(i)(B).

(A) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that contain PM in excess of 0.023 g/dscm (0.010 grains per dry standard cubic feet (gr/dscf)); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the thermal dryer any gases that exhibit 10 percent opacity or greater.

(ii) For each thermal dryer modified after April 28, 2008, the owner or operator must meet the requirements of paragraphs (b)(1)(ii)(A) and (b)(1)(ii)(B) of this section.

(A) The owner or operator must not cause to be discharged to the atmosphere from the affected facility any gases which contain PM in excess of 0.070 g/dscm (0.031 gr/dscf); and

(B) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 20 percent opacity or greater.

(2) Except as provided in paragraph (b)(2)(iii) of this section, for each thermal dryer constructed, reconstructed, or modified after May 27, 2009, the owner or operator must meet the requirements for SO_2 emissions in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 85 ng/J (0.20 lb/MMBtu) heat input; or

(ii) The owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases that either contain SO_2 in excess of 520 ng/J (1.20 lb/MMBtu) heat input or contain SO_2 in excess of 10 percent of the potential combustion concentration (*i.e.,* the facility must achieve at least a 90 percent reduction of the potential combustion concentration and may not exceed a maximum emissions rate of 1.2 lb/MMBtu (520 ng/J)).

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to an SO_2 limit under another subpart of this part, or that use waste heat

or residual from the combustion of coal or residual oil as their only thermal input are not subject to the SO_2 limits of this section.

(3) Except as provided in paragraph (b)(3)(iii) of this section, the owner or operator must meet the requirements for combined NO_X and CO emissions in paragraph (b)(3)(i) or (b)(3)(ii) of this section, as applicable to the affected facility.

(i) For each thermal dryer constructed after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain a combined concentration of NO_X and CO in excess of 280 ng/J (0.65 lb/MMBtu) heat input.

(ii) For each thermal dryer reconstructed or modified after May 27, 2009, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which contain combined concentration of NO_X and CO in excess of 430 ng/J (1.0 lb/MMBtu) heat input.

(iii) Thermal dryers that receive all of their thermal input from a source other than coal or residual oil, that receive all of their thermal input from a source subject to a NO_X limit and/or CO limit under another subpart of this part, or that use waste heat or residual from the combustion of coal or residual oil as their only thermal input, are not subject to the combined NO_X and CO limits of this section.

(c) Thermal dryers receiving all of their thermal input from an affected facility covered under another 40 CFR Part 60 subpart must meet the applicable requirements in that subpart but are not subject to the requirements in this subpart.

§ 60.253 Standards for pneumatic coal-cleaning equipment.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified on or before April 28, 2008, must meet the requirements of paragraphs (a)(1) and (a)(2) of this section.

(1) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess of 0.040 g/dscm (0.017 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit 10 percent opacity or greater.

(b) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of pneumatic coal-cleaning equipment constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) and (b)(2) of this section.

(1) The owner of operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that contain PM in excess or 0.023 g/dscm (0.010 gr/dscf); and

(2) The owner or operator must not cause to be discharged into the atmosphere from the pneumatic coal-cleaning equipment any gases that exhibit greater than 5 percent opacity.

§ 60.254 Standards for coal processing and conveying equipment, coal storage systems, transfer and loading systems, and open storage piles.

(a) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified on or before April 28, 2008, gases which exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test is conducted or required to be completed under §60.8, whichever date comes first, an owner or operator of any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, reconstructed, or modified after April 28, 2008, must meet the requirements in paragraphs (b)(1) through (3) of this section, as applicable to the affected facility.

(1) Except as provided in paragraph (b)(3) of this section, the owner or operator must not cause to be discharged into the atmosphere from the affected facility any gases which exhibit 10 percent opacity or greater.

(2) The owner or operator must not cause to be discharged into the atmosphere from any mechanical vent on an affected facility gases which contain particulate matter in excess of 0.023 g/dscm (0.010 gr/dscf).

(3) Equipment used in the loading, unloading, and conveying operations of open storage piles are not subject to the opacity limitations of paragraph (b)(1) of this section.

(c) The owner or operator of an open storage pile, which includes the equipment used in the loading, unloading, and conveying operations of the affected facility, constructed, reconstructed, or modified after May 27, 2009, must prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions as specified in paragraphs (c)(1) through (6) of this section.

(1) The fugitive coal dust emissions control plan must identify and describe the control measures the owner or operator will use to minimize fugitive coal dust emissions from each open storage pile.

(2) For open coal storage piles, the fugitive coal dust emissions control plan must require that one or more of the following control measures be used to minimize to the greatest extent practicable fugitive coal dust: Locating the source inside a partial enclosure, installing and operating a water spray or fogging system, applying appropriate chemical dust suppression agents on the source (when the provisions of paragraph (c)(6) of this section are met), use of a wind barrier, compaction, or use of a vegetative cover. The owner or operator must select, for inclusion in the fugitive coal dust emissions control plan, the control measure or measures listed in this paragraph that are most appropriate for site conditions. The plan must also explain how the measure or measures selected are applicable and appropriate for site conditions. In addition, the plan must be revised as needed to reflect any changing conditions at the source.

(3) Any owner or operator of an affected facility that is required to have a fugitive coal dust emissions control plan may petition the Administrator to approve, for inclusion in the plan for the affected facility, alternative control measures other than those specified in paragraph (c)(2) of this section as specified in paragraphs (c)(3)(i) through (iv) of this section.

(i) The petition must include a description of the alternative control measures, a copy of the fugitive coal dust emissions control plan for the affected facility that includes the alternative control measures, and information sufficient for EPA to evaluate the demonstrations required by paragraph (c)(3)(ii) of this section.

(ii) The owner or operator must either demonstrate that the fugitive coal dust emissions control plan that includes the alternate control measures will provide equivalent overall environmental protection or demonstrate that it is either economically or technically infeasible for the affected facility to use the control measures specifically identified in paragraph (c)(2).

(iii) While the petition is pending, the owner or operator must comply with the fugitive coal dust emissions control plan including the alternative control measures submitted with the petition. Operation in accordance with the plan submitted with the petition shall be deemed to constitute compliance with the requirement to operate in accordance with a fugitive coal dust emissions control plan that contains one of the control measures specifically identified in paragraph (c)(2) of this section while the petition is pending.

(iv) If the petition is approved by the Administrator, the alternative control measures will be approved for inclusion in the fugitive coal dust emissions control plan for the affected facility. In lieu of amending this subpart, a letter will be sent to the facility describing the specific control measures approved. The facility shall make any such letters and the applicable fugitive coal dust emissions control plan available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(4) The owner or operator must submit the fugitive coal dust emissions control plan to the Administrator or delegated authority as specified in paragraphs (c)(4)(i) and (c)(4)(ii) of this section.

(i) The plan must be submitted to the Administrator or delegated authority prior to startup of the new, reconstructed, or modified affected facility, or 30 days after the effective date of this rule, whichever is later.

(ii) The plan must be revised as needed to reflect any changing conditions at the source. Such revisions must be dated and submitted to the Administrator or delegated authority before a source can operate pursuant to these revisions. The Administrator or delegated authority may also object to such revisions as specified in paragraph (c)(5) of this section.

(5) The Administrator or delegated authority may object to the fugitive coal dust emissions control plan as specified in paragraphs (c)(5)(i) and (c)(5)(ii) of this section.

(i) The Administrator or delegated authority may object to any fugitive coal dust emissions control plan that it has determined does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(ii) If an objection is raised, the owner or operator, within 30 days from receipt of the objection, must submit a revised fugitive coal dust emissions control plan to the Administrator or delegated authority. The owner or operator must operate in accordance with the revised fugitive coal dust emissions control plan. The Administrator or delegated authority retain the right, under paragraph (c)(5) of this section, to object to the revised control plan if it determines the plan does not meet the requirements of paragraphs (c)(1) and (c)(2) of this section.

(6) Where appropriate chemical dust suppression agents are selected by the owner or operator as a control measure to minimize fugitive coal dust emissions, (1) only chemical dust suppressants with Occupational Safety and Health Administration (OSHA)-compliant material safety data sheets (MSDS) are to be allowed; (2) the MSDS must be included in the fugitive coal dust emissions control plan; and (3) the owner or operator must consider and document in the fugitive coal dust emissions control plan the site-specific impacts associated with the use of such chemical dust suppressants.

§ 60.255 Performance tests and other compliance requirements.

(a) An owner or operator of each affected facility that commenced construction, reconstruction, or modification on or before April 28, 2008, must conduct all performance tests required by §60.8 to demonstrate compliance with the applicable emission standards using the methods identified in §60.257.

(b) An owner or operator of each affected facility that commenced construction, reconstruction, or modification after April 28, 2008, must conduct performance tests according to the requirements of §60.8 and the methods identified in §60.257 to demonstrate compliance with the applicable emissions standards in this subpart as specified in paragraphs (b)(1) and (2) of this section.

(1) For each affected facility subject to a PM, SO_2, or combined NO_X and CO emissions standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according the requirements in paragraphs (b)(1)(i) through (iii) of this section, as applicable.

(i) If the results of the most recent performance test demonstrate that emissions from the affected facility are greater than 50 percent of the applicable emissions standard, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

(ii) If the results of the most recent performance test demonstrate that emissions from the affected facility are 50 percent or less of the applicable emissions standard, a new performance test must be conducted within 24 calendar months of the date that the previous performance test was required to be completed.

(iii) An owner or operator of an affected facility that has not operated for the 60 calendar days prior to the due date of a performance test is not required to perform the subsequent performance test until 30 calendar days after the next operating day.

(2) For each affected facility subject to an opacity standard, an initial performance test must be performed. Thereafter, a new performance test must be conducted according to the requirements in paragraphs (b)(2)(i) through (iii) of this section, as applicable, except as provided for in paragraphs (e) and (f) of this section. Performance test and other compliance requirements for coal truck dump operations are specified in paragraph (h) of this section.

(i) If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

(ii) If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

(iii) An owner or operator of an affected facility continuously monitoring scrubber parameters as specified in §60.256(b)(2) is exempt from the requirements in paragraphs (b)(2)(i) and (ii) if opacity performance tests are conducted concurrently with (or within a 60-minute period of) PM performance tests.

(c) If any affected coal processing and conveying equipment (*e.g.,* breakers, crushers, screens, conveying systems), coal storage systems, or coal transfer and loading systems that commenced construction, reconstruction, or modification after April 28, 2008, are enclosed in a building, and emissions from the building do not exceed any of the standards in *§* 60.254 that apply to the affected facility, then the facility shall be deemed to be in compliance with such standards.

(d) An owner or operator of an affected facility (other than a thermal dryer) that commenced construction, reconstruction, or modification after April 28, 2008, is subject to a PM emission standard and uses a control device with a design controlled potential PM emissions rate of 1.0 Mg (1.1 tons) per year or less is exempted from the requirements of paragraphs (b)(1)(i) and (ii) of this section provided that the owner or operator meets all of the conditions specified in paragraphs (d)(1) through (3) of this section. This exemption does not apply to thermal dryers.

(1) PM emissions, as determined by the most recent performance test, are less than or equal to the applicable limit,

(2) The control device manufacturer's recommended maintenance procedures are followed, and

(3) All 6-minute average opacity readings from the most recent performance test are equal to or less than half the applicable opacity limit or the monitoring requirements in paragraphs (e) or (f) of this section are followed.

(e) For an owner or operator of a group of up to five of the same type of affected facilities that commenced construction, reconstruction, or modification after April 28, 2008, that are subject to PM emissions standards and use identical control devices, the Administrator or delegated authority may allow the owner or operator to use a single PM performance test for one of the affected control devices to demonstrate that the group of affected facilities is in compliance with the applicable emissions standards provided that the owner or operator meets all of the conditions specified in paragraphs (e)(1) through (3) of this section.

(1) PM emissions from the most recent performance test for each individual affected facility are 90 percent or less of the applicable PM standard;

(2) The manufacturer's recommended maintenance procedures are followed for each control device; and

(3) A performance test is conducted on each affected facility at least once every 5 calendar years.

(f) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, may elect to comply with the requirements in paragraph (f)(1) or (f)(2) of this section.

(1) Monitor visible emissions from each affected facility according to the requirements in paragraphs (f)(1)(i) through (iii) of this section.

(i) Conduct one daily 15-second observation each operating day for each affected facility (during normal operation) when the coal preparation and processing plant is in operation. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Each observer determining the presence of visible emissions must meet the training requirements specified in §2.3 of Method 22 of appendix A–7 of this part. If visible emissions are observed during any 15-second observation, the owner or operator must adjust the operation of the affected facility and demonstrate within 24 hours that no visible emissions are observed from the affected facility. If visible emissions are observed, a Method 9, of appendix A–4 of this part, performance test must be conducted within 45 operating days.

(ii) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(iii) Conduct a performance test using Method 9 of appendix A–4 of this part at least once every 5 calendar years for each affected facility.

(2) Prepare a written site-specific monitoring plan for a digital opacity compliance system for approval by the Administrator or delegated authority. The plan shall require observations of at least one digital image every 15

seconds for 10-minute periods (during normal operation) every operating day. An approvable monitoring plan must include a demonstration that the occurrences of visible emissions are not in excess of 5 percent of the observation period. For reference purposes in preparing the monitoring plan, *see* OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods. The monitoring plan approved by the Administrator or delegated authority shall be implemented by the owner or operator.

(g) As an alternative to meeting the requirements in paragraph (b)(2) of this section, an owner or operator of an affected facility that commenced construction, reconstruction, or modification after April 28, 2008, subject to a visible emissions standard under this subpart may install, operate, and maintain a continuous opacity monitoring system (COMS). Each COMS used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (g)(1) and (2) of this section.

(1) The COMS must meet Performance Specification 1 in 40 CFR part 60, appendix B.

(2) The COMS must comply with the quality assurance requirements in paragraphs (g)(2)(i) through (v) of this section.

(i) The owner or operator must automatically (intrinsic to the opacity monitor) check the zero and upscale (span) calibration drifts at least once daily. For particular COMS, the acceptable range of zero and upscale calibration materials is as defined in the applicable version of Performance Specification 1 in 40 CFR part 60, appendix B.

(ii) The owner or operator must adjust the zero and span whenever the 24-hour zero drift or 24-hour span drift exceeds 4 percent opacity. The COMS must allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified. The optical surfaces exposed to the effluent gases must be cleaned prior to performing the zero and span drift adjustments, except for systems using automatic zero adjustments. For systems using automatic zero adjustments, the optical surfaces must be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity.

(iii) The owner or operator must apply a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. All procedures applied must provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(iv) Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS must be in continuous operation and must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(v) The owner or operator must reduce all data from the COMS to 6-minute averages. Six-minute opacity averages must be calculated from 36 or more data points equally spaced over each 6-minute period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments must not be included in the data averages. An arithmetic or integrated average of all data may be used.

(h) The owner or operator of each affected coal truck dump operation that commenced construction, reconstruction, or modification after April 28, 2008, must meet the requirements specified in paragraphs (h)(1) through (3) of this section.

(1) Conduct an initial performance test using Method 9 of appendix A–4 of this part according to the requirements in paragraphs (h)(1)(i) and(ii).

(i) Opacity readings shall be taken during the duration of three separate truck dump events. Each truck dump event commences when the truck bed begins to elevate and concludes when the truck bed returns to a horizontal position.

(ii) Compliance with the applicable opacity limit is determined by averaging all 15-second opacity readings made during the duration of three separate truck dump events.

(2) Conduct monthly visual observations of all process and control equipment. If any deficiencies are observed, the necessary maintenance must be performed as expeditiously as possible.

(3) Conduct a performance test using Method 9 of appendix A–4 of this part at least once every 5 calendar years for each affected facility.

§ 60.256 Continuous monitoring requirements.

(a) The owner or operator of each affected facility constructed, reconstructed, or modified on or before April 28, 2008, must meet the monitoring requirements specified in paragraphs (a)(1) and (2) of this section, as applicable to the affected facility.

(1) The owner or operator of any thermal dryer shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

(i) A monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F).

(ii) For affected facilities that use wet scrubber emission control equipment:

(A) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(B) A monitoring device for the continuous measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply pressure. The pressure sensor or tap must be located close to the water discharge point. The Administrator shall have discretion to grant requests for approval of alternative monitoring locations.

(2) All monitoring devices under paragraph (a) of this section are to be recalibrated annually in accordance with procedures under §60.13(b).

(b) The owner or operator of each affected facility constructed, reconstructed, or modified after April 28, 2008, that has one or more mechanical vents must install, calibrate, maintain, and continuously operate the monitoring devices specified in paragraphs (b)(1) through (3) of this section, as applicable to the mechanical vent and any control device installed on the vent.

(1) For mechanical vents with fabric filters (baghouses) with design controlled potential PM emissions rates of 25 Mg (28 tons) per year or more, a bag leak detection system according to the requirements in paragraph (c) of this section.

(2) For mechanical vents with wet scrubbers, monitoring devices according to the requirements in paragraphs (b)(2)(i) through (iv) of this section.

(i) A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±1 inch water gauge.

(ii) A monitoring device for the continuous measurement of the water supply flow rate to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design water supply flow rate.

(iii) A monitoring device for the continuous measurement of the pH of the wet scrubber liquid. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design pH.

(iv) An average value for each monitoring parameter must be determined during each performance test. Each monitoring parameter must then be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(3) For mechanical vents with control equipment other than wet scrubbers, a monitoring device for the continuous measurement of the reagent injection flow rate to the control equipment, as applicable. The monitoring device is to be certified by the manufacturer to be accurate within ±5 percent of design injection flow rate. An average reagent injection flow rate value must be determined during each performance test. The reagent injection flow rate must then

be maintained within 10 percent of the value established during the most recent performance test on an operating day average basis.

(c) Each bag leak detection system used to comply with provisions of this subpart must be installed, calibrated, maintained, and continuously operated according to the requirements in paragraphs (c)(1) through (3) of this section.

(1) The bag leak detection system must meet the specifications and requirements in paragraphs (c)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (mg/dscm) (0.00044 grains per actual cubic foot (gr/acf)) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (*e.g.,* using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (c)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (c)(2)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (c)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator must develop and submit to the Administrator or delegated authority for approval a site-specific monitoring plan for each bag leak detection system. This plan must be submitted to the Administrator or delegated authority 30 days prior to startup of the affected facility. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (c)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (c)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow the owner and operator more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (c)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

§ 60.257 Test methods and procedures.

(a) The owner or operator must determine compliance with the applicable opacity standards as specified in paragraphs (a)(1) through (3) of this section.

(1) Method 9 of appendix A–4 of this part and the procedures in §60.11 must be used to determine opacity, with the exceptions specified in paragraphs (a)(1)(i) and (ii).

(i) The duration of the Method 9 of appendix A–4 of this part performance test shall be 1 hour (ten 6-minute averages).

(ii) If, during the initial 30 minutes of the observation of a Method 9 of appendix A–4 of this part performance test, all of the 6-minute average opacity readings are less than or equal to half the applicable opacity limit, then the observation period may be reduced from 1 hour to 30 minutes.

(2) To determine opacity for fugitive coal dust emissions sources, the additional requirements specified in paragraphs (a)(2)(i) through (iii) must be used.

(i) The minimum distance between the observer and the emission source shall be 5.0 meters (16 feet), and the sun shall be oriented in the 140-degree sector of the back.

(ii) The observer shall select a position that minimizes interference from other fugitive coal dust emissions sources and make observations such that the line of vision is approximately perpendicular to the plume and wind direction.

(iii) The observer shall make opacity observations at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. Water vapor is not considered a visible emission.

(3) A visible emissions observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions specified in paragraphs (a)(3)(i) through (iii) of this section are met.

(i) No more than three emissions points may be read concurrently.

(ii) All three emissions points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emissions points is within 5 percent opacity from the applicable standard (excluding readings of zero opacity), then the observer must stop taking readings for the other two points and continue reading just that single point.

(b) The owner or operator must conduct all performance tests required by §60.8 to demonstrate compliance with the applicable emissions standards specified in §60.252 according to the requirements in §60.8 using the applicable test methods and procedures in paragraphs (b)(1) through (8) of this section.

(1) Method 1 or 1A of appendix A–4 of this part shall be used to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

(2) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A–4 of this part shall be used to determine the volumetric flow rate of the stack gas.

(3) Method 3, 3A, or 3B of appendix A–4 of this part shall be used to determine the dry molecular weight of the stack gas. The owner or operator may use ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses (incorporated by reference— *see* §60.17) as an alternative to Method 3B of appendix A–2 of this part.

(4) Method 4 of appendix A–4 of this part shall be used to determine the moisture content of the stack gas.

(5) Method 5, 5B or 5D of appendix A–4 of this part or Method 17 of appendix A–7 of this part shall be used to determine the PM concentration as follows:

(i) The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf). Sampling shall begin no less than 30 minutes after startup and shall terminate before shutdown procedures begin. A minimum of three valid test runs are needed to comprise a PM performance test.

(ii) Method 5 of appendix A of this part shall be used only to test emissions from affected facilities without wet flue gas desulfurization (FGD) systems.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(iv) Method 5D of appendix A–4 of this part shall be used for positive pressure fabric filters and other similar applications (*e.g.,* stub stacks and roof vents).

(v) Method 17 of appendix A–6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used in Method 17 of appendix A–6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(6) Method 6, 6A, or 6C of appendix A–4 of this part shall be used to determine the SO_2 concentration. A minimum of three valid test runs are needed to comprise an SO_2 performance test.

(7) Method 7 or 7E of appendix A–4 of this part shall be used to determine the NO_X concentration. A minimum of three valid test runs are needed to comprise an NO_X performance test.

(8) Method 10 of appendix A–4 of this part shall be used to determine the CO concentration. A minimum of three valid test runs are needed to comprise a CO performance test. CO performance tests are conducted concurrently (or within a 60-minute period) with NO_X performance tests.

§ 60.258 Reporting and recordkeeping.

(a) The owner or operator of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

(1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.

(2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

(3) The amount and type of coal processed each calendar month.

(4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

(5) Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

(6) Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, *e.g.* objections, to the plan and any actions relative to the alternative control measures, *e.g.* approvals, shall be noted in the logbook as well.

(7) For each bag leak detection system, the owner or operator must keep the records specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and

(iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

(8) A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

(9) During a performance test of a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the scrubber pressure loss, water supply flow rate, and pH of the wet scrubber liquid.

(10) During a performance test of control equipment other than a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the reagent injection flow rate, as applicable.

(b) For the purpose of reports required under section 60.7(c), any owner operator subject to the provisions of this subpart also shall report semiannually periods of excess emissions as follow:

(1) The owner or operator of an affected facility with a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the scrubber pressure loss, water supply flow rate, or pH of the wet scrubber liquid vary by more than 10 percent from the average determined during the most recent performance test.

(2) The owner or operator of an affected facility with control equipment other than a wet scrubber shall submit semiannual reports to the Administrator or delegated authority of occurrences when the measurements of the reagent injection flow rate, as applicable, vary by more than 10 percent from the average determined during the most recent performance test.

(3) All 6-minute average opacities that exceed the applicable standard.

(c) The owner or operator of an affected facility shall submit the results of initial performance tests to the Administrator or delegated authority, consistent with the provisions of section 60.8. The owner or operator who elects to comply with the reduced performance testing provisions of sections 60.255(c) or (d) shall include in the performance test report identification of each affected facility that will be subject to the reduced testing. The owner or operator electing to comply with section 60.255(d) shall also include information which demonstrates that the control devices are identical.

(d) After July 1, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by successfully entering the data electronically into EPA's WebFIRE data base available at

http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main. For performance tests that cannot be entered into WebFIRE (*i.e.,* Method 9 of appendix A–4 of this part opacity performance tests) the owner or operator of the affected facility must mail a summary copy to United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; mail code: D243–01; RTP, NC 27711.

Attachment C
to Part 70 Operating Permit No. T157-27029-00003

Tate & Lyle Ingredients Americas LLC
2245 North Sagamore Parkway, Lafayette, IN 47904

Title 40: Protection of Environment
Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

Source: 69 FR 5063, Feb. 3, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.2330 What is the purpose of this subpart?

This subpart establishes national emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations, operating limits, and work practice standards.

§ 63.2334 Am I subject to this subpart?

(a) Except as provided for in paragraphs (b) and (c) of this section, you are subject to this subpart if you own or operate an OLD operation that is located at, or is part of, a major source of HAP emissions. An OLD operation may occupy an entire plant site or be collocated with other industrial (*e.g.,* manufacturing) operations at the same plant site.

(b) Organic liquid distribution operations located at research and development facilities, consistent with section 112(c)(7) of the Clean Air Act (CAA), are not subject to this subpart.

(c) Organic liquid distribution operations do not include the activities and equipment, including product loading racks, used to process, store, or transfer organic liquids at facilities listed in paragraph (c) (1) and (2) of this section.

(1) Oil and natural gas production field facilities, as the term “facility” is defined in §63.761 of subpart HH.

(2) Natural gas transmission and storage facilities, as the term “facility” is defined in §63.1271 of subpart HHH.

§ 63.2338 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing OLD operation affected source.

(b) Except as provided in paragraph (c) of this section, the affected source is the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The affected source is composed of:

(1) All storage tanks storing organic liquids.

(2) All transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers.

(3) All equipment leak components in organic liquids service that are associated with:

(i) Storage tanks storing organic liquids;

(ii) Transfer racks loading or unloading organic liquids;

(iii) Pipelines that transfer organic liquids directly between two storage tanks that are subject to this subpart;

(iv) Pipelines that transfer organic liquids directly between a storage tank subject to this subpart and a transfer rack subject to this subpart; and

(v) Pipelines that transfer organic liquids directly between two transfer racks that are subject to this subpart.

(4) All transport vehicles while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(5) All containers while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(c) The equipment listed in paragraphs (c)(1) through (4) of this section and used in the identified operations is excluded from the affected source.

(1) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that are part of an affected source under another 40 CFR part 63 national emission standards for hazardous air pollutants (NESHAP).

(2) Non-permanent storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used in special situation distribution loading and unloading operations (such as maintenance or upset liquids management).

(3) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used to conduct maintenance activities, such as stormwater management, liquid removal from tanks for inspections and maintenance, or changeovers to a different liquid stored in a storage tank.

(d) An affected source is a new affected source if you commenced construction of the affected source after April 2, 2002, and you meet the applicability criteria in §63.2334 at the time you commenced operation.

(e) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(f) An affected source is existing if it is not new or reconstructed.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42904, July 28, 2006]

§ 63.2342 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the schedule identified in paragraph (a)(1), (a)(2), or (a)(3) of this section, as applicable.

(1)(i) Except as provided in paragraph (a)(1)(ii) of this section, if you startup your new affected source on or before February 3, 2004 or if you reconstruct your affected source on or before February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart no later than February 3, 2004.

(ii) For any emission source listed in paragraph §63.2338(b) at an affected source that commenced construction or reconstruction after April 2, 2002, but before February 3, 2004, that is required to be controlled based on the applicability criteria in this subpart, but:

(A) Would not have been required to be controlled based on the applicability criteria as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later; or

(B) Would have been subject to a less stringent degree of control requirement as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later, and if you start up your affected new or reconstructed source before February 5, 2007, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source as proposed for this subpart, until you are required to comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section.

(2) If you commence construction of or reconstruct your affected source after February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(3) If, after startup of a new affected source, the total actual annual facility-level organic liquid loading volume at that source exceeds the criteria for control in Table 2 to this subpart, items 9 and 10, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(b)(1) If you have an existing affected source, you must comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in paragraphs (b)(2) and (3) of this section.

(2) Floating roof storage tanks at existing affected sources must be in compliance with the work practice standards in Table 4 to this subpart, item 1, at all times after the next degassing and cleaning activity or within 10 years after February 3, 2004, whichever occurs first. If the first degassing and cleaning activity occurs during the 3 years following February 3, 2004, the compliance date is February 5, 2007.

(3)(i) If an addition or change other than reconstruction as defined in §63.2 is made to an existing affected facility that causes the total actual annual facility-level organic liquid loading volume to exceed the criteria for control in Table 2 to this subpart, items 7 and 8, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(ii) If the owner or operator believes that compliance with the transfer rack emission limits cannot be achieved immediately, as specified in paragraph (b)(3)(i) of this section, the owner or operator may submit a request for a compliance extension, as specified in paragraphs (b)(3)(ii)(A) through (I) of this section. Subject to paragraph (b)(3)(ii)(B) of this section, until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph (b)(3)(ii), the owner or operator of the transfer rack subject to the requirements of this section shall comply with all applicable requirements of this subpart. Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(A) *Submittal.* The owner or operator shall submit a request for a compliance extension to the Administrator (or a State, when the State has an approved 40 CFR part 70 permit program and the source is required to obtain a 40 CFR part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) seeking an extension allowing the source up to 1 additional year to comply with the transfer rack standard, if such additional period is necessary for the installation of controls. The owner or operator of the affected source who has requested an extension of compliance under this paragraph (b)(3)(ii)(A) and who is otherwise required to obtain a title V permit shall apply for such permit, or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph (b)(3)(ii)(A) will be incorporated into the affected source's title V permit according to the provisions of 40 CFR part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) *When to submit.* (*1*) Any request submitted under paragraph (b)(3)(ii)(A) of this section must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraph (b)(3)(i) of this section), except as provided for in paragraph (b)(3)(ii)(B)(*2*) of this section. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*1*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial.

(*2*) An owner or operator may submit a compliance extension request after the date specified in paragraph (b)(3)(ii)(B)(*1*) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (b)(3)(ii)(C) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*2*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(C) *Information required.* The request for a compliance extension under paragraph (b)(3)(ii)(A) of this section shall include the following information:

(*1*) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(*2*) The name, address, and telephone number of a contact person for further information;

(*3*) An identification of the organic liquid distribution operation and of the specific equipment for which additional compliance time is required;

(*4*) A description of the controls to be installed to comply with the standard;

(*5*) Justification for the length of time being requested; and

(*6*) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*i*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated;

(*ii*) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(*iii*) The date by which final compliance is to be achieved.

(D) *Approval of request for extension of compliance.* Based on the information provided in any request made under paragraph (b)(3)(ii)(C) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with the transfer rack emission standard, as specified in paragraph (b)(3)(ii) of this section. The extension will be in writing and will—

(*1*) Identify each affected source covered by the extension;

(*2*) Specify the termination date of the extension;

(*3*) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(*4*) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests);

(*5*) Specify the contents of the progress reports to be submitted and the dates by which such reports are to be submitted, if required pursuant to paragraph (b)(3)(ii)(E) of this section.

(*6*) Under paragraph (b)(3)(ii) of this section, specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period.

(E) *Progress reports.* The owner or operator of an existing source that has been granted an extension of compliance under paragraph (b)(3)(ii)(D) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached.

(F) *Notification of approval or intention to deny.* (*1*) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (b)(3)(ii) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application; that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. Failure by the Administrator to act within 30 calendar days to approve or disapprove a request submitted under paragraph (b)(3)(ii) of this section does not constitute automatic approval of the request.

(*2*) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(*3*) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

(*i*) Notice of the information and findings on which the intended denial is based; and

(*ii*) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(*4*) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(G) *Termination of extension of compliance.* The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (b)(3)(ii)(D)(*3*) or paragraph (b)(3)(ii)(D)(*4*) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(*1*) Notice of the reason for termination; and

(*2*) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(*3*) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(H) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the CAA.

(I) *Limitation on use of compliance extension.* The owner or operator may request an extension of compliance under the provisions specified in paragraph (b)(3)(ii) of this section only once for each facility.

(c) If you have an area source that does not commence reconstruction but increases its emissions or its potential to emit such that it becomes a major source of HAP emissions and an existing affected source subject to this subpart, you must be in compliance by 3 years after the area source becomes a major source.

(d) You must meet the notification requirements in §§63.2343 and 63.2382(a), as applicable, according to the schedules in §63.2382(a) and (b)(1) through (3) and in subpart A of this part. Some of these notifications must be submitted before the compliance dates for the emission limitations, operating limits, and work practice standards in this subpart.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42905, July 28, 2006]

§ 63.2343 What are my requirements for emission sources not requiring control?

This section establishes the notification, recordkeeping, and reporting requirements for emission sources identified in §63.2338 that do not require control under this subpart (i.e., under paragraphs (a) through (e) of §63.2346). Such emission sources are not subject to any other notification, recordkeeping, or reporting sections in this subpart, including §63.2350(c), except as indicated in paragraphs (a) through (d) of this section.

(a) For each storage tank subject to this subpart having a capacity of less than 18.9 cubic meters (5,000 gallons) and for each transfer rack subject to this subpart that only unloads organic liquids (i.e., no organic liquids are loaded at any of the transfer racks), you must keep documentation that verifies that each storage tank and transfer rack identified in paragraph (a) of this section is not required to be controlled. The documentation must be kept up-to-date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location. The documentation may consist of identification of the tanks and transfer racks identified in paragraph (a) of this section on a plant site plan or process and instrumentation diagram (P&ID).

(b) For each storage tank subject to this subpart having a capacity of 18.9 cubic meters (5,000 gallons) or more that is not subject to control based on the criteria specified in Table 2 to this subpart, items 1 through 6, you must comply with the requirements specified in paragraphs (b)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or in your first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each storage tank that meets the conditions identified in paragraph (b) of this section, you must keep documentation, including a record of the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid, that verifies the storage tank is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(c) For each transfer rack subject to this subpart that loads organic liquids but is not subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with the requirements specified in paragraphs (c)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or a first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each transfer rack that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each transfer rack that meets the conditions identified in paragraph (c) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each transfer rack that meets the conditions identified in paragraph (c) of this section, you must keep documentation, including the records specified in §63.2390(d), that verifies the transfer rack is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(d) If one or more of the events identified in paragraphs (d)(1) through (4) of this section occur since the filing of the Notification of Compliance Status or the last Compliance report, you must submit a subsequent Compliance report as specified in paragraphs (b)(2) and (c)(2) of this section.

(1) Any storage tank or transfer rack became subject to control under this subpart EEEE; or

(2) Any storage tank equal to or greater than 18.9 cubic meters (5,000 gallons) became part of the affected source but is not subject to any of the emission limitations, operating limits, or work practice standards of this subpart; or

(3) Any transfer rack (except those racks at which only unloading of organic liquids occurs) became part of the affected source; or

(4) Any of the information required in §63.2386(c)(1), §63.2386(c)(2), or §63.2386(c)(3) has changed.

[71 FR 42906, July 28, 2006, as amended at 73 FR 21830, Apr. 23, 2008]

Emission Limitations, Operating Limits, and Work Practice Standards

§ 63.2346 What emission limitations, operating limits, and work practice standards must I meet?

(a) *Storage tanks.* For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, items 1 through 5, you must comply with paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section. For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, item 6, you must comply with paragraph (a)(1), (a)(2), or (a)(4) of this section.

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements specified in 40 CFR part 63, subpart SS, for meeting emission limits, except substitute the term “storage tank” at each occurrence of the term “storage vessel” in subpart SS.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3) Comply with 40 CFR part 63, subpart WW (control level 2).

(4) Use a vapor balancing system that complies with the requirements specified in paragraphs (a)(4)(i) through (vii) of this section and with the recordkeeping requirements specified in §63.2390(e).

(i) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the transport vehicle from which the storage tank is filled.

(ii) Transport vehicles must have a current certification in accordance with the United States Department of Transportation (U.S. DOT) pressure test requirements of 49 CFR part 180 for cargo tanks and 49 CFR 173.31 for tank cars.

(iii) Organic liquids must only be unloaded from cargo tanks or tank cars when vapor collection systems are connected to the storage tank's vapor collection system.

(iv) No pressure relief device on the storage tank, or on the cargo tank or tank car, shall open during loading or as a result of diurnal temperature changes (breathing losses).

(v) Pressure relief devices must be set to no less than 2.5 pounds per square inch guage (psig) at all times to prevent breathing losses. Pressure relief devices may be set at values less than 2.5 psig if the owner or operator provides rationale in the notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times. The owner or operator shall comply with paragraphs (a)(4)(v)(A) through (C) of this section for each pressure relief valve.

(A) The pressure relief valve shall be monitored quarterly using the method described in §63.180(b).

(B) An instrument reading of 500 parts per million by volume (ppmv) or greater defines a leak.

(C) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is detected, and the owner or operator shall comply with the recordkeeping requirements of §63.181(d)(1) through (4).

(vi) Cargo tanks and tank cars that deliver organic liquids to a storage tank must be reloaded or cleaned at a facility that utilizes the control techniques specified in paragraph (a)(4)(vi)(A) or (a)(4)(vi)(B) of this section.

(A) The cargo tank or tank car must be connected to a closed-vent system with a control device that reduces inlet emissions of total organic HAP by 95 percent by weight or greater or to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air.

(B) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the cargo tank or tank car during reloading must be used to route the collected vapor to the storage tank from which the liquid being transferred originated or to another storage tank connected to a common header.

(vii) The owner or operator of the facility where the cargo tank or tank car is reloaded or cleaned must comply with paragraphs (a)(4)(vii)(A) through (D) of this section.

(A) Submit to the owner or operator of the storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of paragraph (a)(4)(vii)(A) through (C) of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (a)(4)(vii) of this section.

(B) If complying with paragraph (a)(4)(vi)(A) of this section, comply with the requirements for a closed vent system and control device as specified in this subpart EEEE. The notification requirements in §63.2382 and the reporting requirements in §63.2386 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(C) If complying with paragraph (a)(4)(vi)(B) of this section, keep the records specified in §63.2390(e)(3) or equivalent recordkeeping approved by the Administrator.

(D) After the compliance dates specified in §63.2342, at an offsite reloading or cleaning facility subject to §63.2346(a)(4), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 that has monitoring, recordkeeping, and reporting provisions constitutes compliance with the monitoring, recordkeeping and reporting provisions of §63.2346(a)(4)(vii)(B) or §63.2346(a)(4)(vii)(C). You must identify in your notification of compliance status report required by §63.2382(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Transfer racks.* For each transfer rack that is part of the collection of transfer racks that meets the total actual annual facility-level organic liquid loading volume criterion for control in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (b)(1), (b)(2), or (b)(3) of this section for each arm in the transfer rack loading an organic liquid whose organic HAP content meets the organic HAP criterion for control in Table 2 to this subpart, items 7 through 10. For existing affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section during the loading of organic liquids into transport vehicles. For new affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section during the loading of organic liquids into transport vehicles and containers. If the total actual annual facility-level organic liquid loading volume at any affected source is equal to or greater than the loading volume criteria for control in Table 2 to this subpart, but at a later date is less than the loading volume criteria for control, compliance with paragraph (b)(1), (b)(2), or (b)(3) of this section is no longer required. For new sources and reconstructed sources, as defined in §63.2338(d) and (e), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section immediately, as specified in §63.2342(a)(3). For existing sources, as defined in §63.2338(f), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section immediately, as specified in §63.2342(b)(3)(i), unless an alternative compliance schedule has been approved under §63.2342(b)(3)(ii) and subject to the use limitation specified in §63.2342(b)(3)(ii)(I).

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements for transfer racks specified in 40 CFR part 63, subpart SS, for meeting emission limits.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3)(i) Use a vapor balancing system that routes organic HAP vapors displaced from the loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(ii) Use a vapor balancing system that routes the organic HAP vapors displaced from the loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(c) *Equipment leak components.* For each pump, valve, and sampling connection that operates in organic liquids service for at least 300 hours per year, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H. Pumps, valves, and sampling connectors that are insulated to provide protection against persistent sub-freezing temperatures are subject to the "difficult to monitor" provisions in the applicable subpart selected by the owner or operator. This paragraph only applies if the affected source has at least one storage tank or transfer rack that meets the applicability criteria for control in Table 2 to this subpart.

(d) *Transport vehicles.* For each transport vehicle equipped with vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(1) of this section. For each transport vehicle without vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(2) of this section.

(1) Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles and comply with the provisions in 40 CFR 60.502(f) through (i), except substitute the term "transport vehicle" at each occurrence of the term "tank truck" or "gasoline tank truck" in those paragraphs.

(2) Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(e) *Operating limits.* For each high throughput transfer rack, you must meet each operating limit in Table 3 to this subpart for each control device used to comply with the provisions of this subpart whenever emissions from the loading of organic liquids are routed to the control device. For each storage tank and low throughput transfer rack, you must comply with the requirements for monitored parameters as specified in subpart SS of this part for storage vessels and, during the loading of organic liquids, for low throughput transfer racks, respectively. Alternatively, you may comply with the operating limits in Table 3 to this subpart.

(f) For noncombustion devices, if you elect to demonstrate compliance with a percent reduction requirement in Table 2 to this subpart using total organic compounds (TOC) rather than organic HAP, you must first demonstrate, subject to the approval of the Administrator, that TOC is an appropriate surrogate for organic HAP in your case; that is, for your storage tank(s) and/or transfer rack(s), the percent destruction of organic HAP is equal to or higher than the percent destruction of TOC. This demonstration must be conducted prior to or during the initial compliance test.

(g) As provided in §63.6(g), you may request approval from the Administrator to use an alternative to the emission limitations, operating limits, and work practice standards in this section. You must follow the procedures in §63.177(b) through (e) in applying for permission to use such an alternative. If you apply for permission to use an alternative to the emission limitations, operating limits, and work practice standards in this section, you must submit the information described in §63.6(g)(2).

(h) [Reserved]

(i) Opening of a safety device is allowed at any time that it is required to avoid unsafe operating conditions.

(j) If you elect to comply with this subpart by combining emissions from different emission sources subject to this subpart in a single control device, then you must comply with the provisions specified in §63.982(f).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42908, July 28, 2006; 73 FR 40981, July 17, 2008; 73 FR 21830, Apr. 23, 2008]

General Compliance Requirements

§ 63.2350 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limits, and work practice standards in this subpart at all times when the equipment identified in §63.2338(b)(1) through (4) is in OLD operation.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) Except for emission sources not required to be controlled as specified in §63.2343, you must develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in §63.6(e)(3).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

Testing and Initial Compliance Requirements

§ 63.2354 What performance tests, design evaluations, and performance evaluations must I conduct?

(a)(1) For each performance test that you conduct, you must use the procedures specified in subpart SS of this part and the provisions specified in paragraph (b) of this section.

(2) For each design evaluation you conduct, you must use the procedures specified in subpart SS of this part.

(3) For each performance evaluation of a continuous emission monitoring system (CEMS) you conduct, you must follow the requirements in §63.8(e).

(b)(1) For nonflare control devices, you must conduct each performance test according to the requirements in §63.7(e)(1), and either §63.988(b), §63.990(b), or §63.995(b), using the procedures specified in §63.997(e).

(2) You must conduct three separate test runs for each performance test on a nonflare control device as specified in §§63.7(e)(3) and 63.997(e)(1)(v). Each test run must last at least 1 hour, except as provided in §63.997(e)(1)(v)(A) and (B).

(3)(i) In addition to EPA Method 25 or 25A of 40 CFR part 60, appendix A, to determine compliance with the organic HAP or TOC emission limit, you may use EPA Method 18 of 40 CFR part 60, appendix A, as specified in paragraph (b)(3)(i) of this section. As an alternative to EPA Method 18, you may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), under the conditions specified in paragraph (b)(3)(ii) of this section.

(A) If you use EPA Method 18 to measure compliance with the percentage efficiency limit, you must first determine which organic HAP are present in the inlet gas stream (i.e., uncontrolled emissions) using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, you must analyze samples collected as specified in EPA Method 18, simultaneously at the inlet and outlet of the control device. Quantify the emissions for the same organic HAP identified as present in the inlet gas stream for both the inlet and outlet gas streams of the control device.

(B) If you use EPA Method 18 of 40 CFR part 60, appendix A, to measure compliance with the emission concentration limit, you must first determine which organic HAP are present in the inlet gas stream using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, analyze samples collected as specified in EPA Method 18 at the outlet of the control device. Quantify the control device outlet emission concentration for the same organic HAP identified as present in the inlet or uncontrolled gas stream.

(ii) You may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), as an alternative to EPA Method 18 if the target concentration is between 150 parts per billion by volume and 100 ppmv and either of the conditions specified in paragraph (b)(2)(ii)(A) or (B) of this section exists. For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004) and not amenable to detection by mass spectrometry, you may not use ASTM D6420–99 (Reapproved 2004).

(A) The target compounds are those listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14),; or

(B) For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in ASTM D6420–99 (Reapproved 2004), Section 10.5.3, must be followed, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water-soluble.

(4) If a principal component of the uncontrolled or inlet gas stream to the control device is formaldehyde, you may use EPA Method 316 of appendix A of this part instead of EPA Method 18 of 40 CFR part 60, appendix A, for measuring the formaldehyde. If formaldehyde is the predominant organic HAP in the inlet gas stream, you may use EPA Method 316 alone to measure formaldehyde either at the inlet and outlet of the control device using the formaldehyde control efficiency as a surrogate for total organic HAP or TOC efficiency, or at the outlet of a combustion device for determining compliance with the emission concentration limit.

(5) You may not conduct performance tests during periods of SSM, as specified in §63.7(e)(1).

(c) To determine the HAP content of the organic liquid, you may use EPA Method 311 of 40 CFR part 63, appendix A, or other method approved by the Administrator. In addition, you may use other means, such as voluntary consensus standards, material safety data sheets (MSDS), or certified product data sheets, to determine the HAP content of the organic liquid. If the method you select to determine the HAP content provides HAP content ranges, you must use the upper end of each HAP content range in determining the total HAP content of the organic liquid. The EPA may require you to test the HAP content of an organic liquid using EPA Method 311 or other method approved by the Administrator. If the results of the EPA Method 311 (or any other approved method) are different from the HAP content determined by another means, the EPA Method 311 (or approved method) results will govern.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

§ 63.2358 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) You must conduct initial performance tests and design evaluations according to the schedule in §63.7(a)(2), or by the compliance date specified in any applicable State or Federal new source review construction permit to which the affected source is already subject, whichever is earlier.

(b)(1) For storage tanks and transfer racks at existing affected sources complying with the emission limitations listed in Table 2 to this subpart, you must demonstrate initial compliance with the emission limitations within 180 days after February 5, 2007.

(2) For storage tanks and transfer racks at reconstructed or new affected sources complying with the emission limitations listed in Table 2 to this subpart, you must conduct your initial compliance demonstration with the emission limitations within 180 days after the initial startup date for the affected source or February 3, 2004, whichever is later.

(c)(1) For storage tanks at existing affected sources complying with the work practice standard in Table 4 to this subpart, you must conduct your initial compliance demonstration the next time the storage tank is emptied and degassed, but not later than 10 years after February 3, 2004.

(2) For transfer racks and equipment leak components at existing affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after February 5, 2007.

(d) For storage tanks, transfer racks, and equipment leak components at reconstructed or new affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after the initial startup date for the affected source.

§ 63.2362 When must I conduct subsequent performance tests?

(a) For nonflare control devices, you must conduct subsequent performance testing required in Table 5 to this subpart, item 1, at any time the EPA requests you to in accordance with section 114 of the CAA.

(b)(1) For each transport vehicle that you own that is equipped with vapor collection equipment and that is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must perform the vapor tightness testing required in Table 5 to this subpart, item 2, on that transport vehicle at least once per year.

(2) For transport vehicles that you own that do not have vapor collection equipment, you must maintain current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2366 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain a CMS on each control device required in order to comply with this subpart. If you use a continuous parameter monitoring system (CPMS) (as defined in §63.981), you must comply with the applicable requirements for CPMS in subpart SS of this part for the control device being used. If you use a continuous emissions monitoring system (CEMS), you must comply with the requirements in §63.8.

(b) For nonflare control devices controlling storage tanks and low throughput transfer racks, you must submit a monitoring plan according to the requirements in subpart SS of this part for monitoring plans.

§ 63.2370 How do I demonstrate initial compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you as specified in Tables 6 and 7 to this subpart.

(b) You demonstrate initial compliance with the operating limits requirements specified in §63.2346(e) by establishing the operating limits during the initial performance test or design evaluation.

(c) You must submit the results of the initial compliance determination in the Notification of Compliance Status according to the requirements in §63.2382(d).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

Continuous Compliance Requirements

§ 63.2374 When do I monitor and collect data to demonstrate continuous compliance and how do I use the collected data?

(a) You must monitor and collect data according to subpart SS of this part and paragraphs (b) and (c) of this section.

(b) When using a control device to comply with this subpart, you must monitor continuously or collect data at all required intervals at all times that the emission source and control device are in OLD operation, except for CMS malfunctions (including any malfunction preventing the CMS from operating properly), associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).

(c) Do not use data recorded during CMS malfunctions, associated repairs, required quality assurance or control activities, or periods when emissions from organic liquids are not routed to the control device in data averages and calculations used to report emission or operating levels. Do not use such data in fulfilling a minimum data availability

requirement, if applicable. You must use all of the data collected during all other periods, including periods of SSM, in assessing the operation of the control device.

§ 63.2378 How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate continuous compliance with each emission limitation, operating limit, and work practice standard in Tables 2 through 4 to this subpart that applies to you according to the methods specified in subpart SS of this part and in Tables 8 through 10 to this subpart, as applicable.

(b) You must follow the requirements in §63.6(e)(1) and (3) during periods of startup, shutdown, malfunction, or nonoperation of the affected source or any part thereof. In addition, the provisions of paragraphs (b)(1) through (3) of this section apply.

(1) The emission limitations in this subpart apply at all times except during periods of nonoperation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. The emission limitations of this subpart apply during periods of SSM, except as provided in paragraphs (b)(2) and (3) of this section. However, if a SSM, or period of nonoperation of one portion of the affected source does not affect the ability of a particular emission source to comply with the emission limitations to which it is subject, then that emission source is still required to comply with the applicable emission limitations of this subpart during the startup, shutdown, malfunction, or period of nonoperation.

(2) The owner or operator must not shut down control devices or monitoring systems that are required or utilized for achieving compliance with this subpart during periods of SSM while emissions are being routed to such items of equipment if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (b)(2) does not apply if the item of equipment is malfunctioning. This paragraph (b)(2) also does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to a contemporaneous SSM of the affected source or portion thereof. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous SSM of the affected source of portion thereof, the owner or operator must provide documentation supporting such a claim in the next Compliance report required in Table 11 to this subpart, item 1. Once approved by the Administrator, the provision for ceasing to collect, during a SSM, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the SSM plan.

(3) During SSM, you must implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph (b)(3), the term “excess emissions” means emissions greater than those allowed by the emission limits that apply during normal operational periods. The measures to be taken must be identified in the SSM plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected source. Back-up control devices are not required, but may be used if available.

(c) Periods of planned routine maintenance of a control device used to control storage tanks or transfer racks, during which the control device does not meet the emission limits in Table 2 to this subpart, must not exceed 240 hours per year.

(d) If you elect to route emissions from storage tanks or transfer racks to a fuel gas system or to a process, as allowed by §63.982(d), to comply with the emission limits in Table 2 to this subpart, the total aggregate amount of time during which the emissions bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except SSM or product changeovers of flexible operation units and periods when a storage tank has been emptied and degassed), must not exceed 240 hours.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006]

Notifications, Reports, and Records

§ 63.2382 What notifications must I submit and when and what information should be submitted?

(a) You must submit each notification in subpart SS of this part, Table 12 to this subpart, and paragraphs (b) through (d) of this section that applies to you. You must submit these notifications according to the schedule in Table 12 to this subpart and as specified in paragraphs (b) through (d) of this section.

(b)(1) *Initial Notification.* If you startup your affected source before February 3, 2004, you must submit the Initial Notification no later than 120 calendar days after February 3, 2004.

(2) If you startup your new or reconstructed affected source on or after February 3, 2004, you must submit the Initial Notification no later than 120 days after initial startup.

(c) If you are required to conduct a performance test, you must submit the Notification of Intent to conduct the test at least 60 calendar days before it is initially scheduled to begin as required in §63.7(b)(1).

(d)(1) *Notification of Compliance Status.* If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Table 5, 6, or 7 to this subpart, you must submit a Notification of Compliance Status.

(2) The Notification of Compliance Status must include the information required in §63.999(b) and in paragraphs (d)(2)(i) through (viii) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify organic HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to Tables 6 and 7 to this subpart. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) Descriptions of worst-case operating and/or testing conditions for the control device(s).

(v) Identification of emission sources subject to overlapping requirements described in §63.2396 and the authority under which you will comply.

(vi) The applicable information specified in §63.1039(a)(1) through (3) for all pumps and valves subject to the work practice standards for equipment leak components in Table 4 to this subpart, item 4.

(vii) If you are complying with the vapor balancing work practice standard for transfer racks according to Table 4 to this subpart, item 3.a, include a statement to that effect and a statement that the pressure vent settings on the affected storage tanks are greater than or equal to 2.5 psig.

(viii) The information specified in §63.2386(c)(10)(i), unless the information has already been submitted with the first Compliance report. If the information specified in §63.2386(c)(10)(i) has already been submitted with the first Compliance report, the information specified in §63.2386(d)(3) and (4), as applicable, shall be submitted instead.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2386 What reports must I submit and when and what information is to be submitted in each?

(a) You must submit each report in subpart SS of this part, Table 11 to this subpart, Table 12 to this subpart, and in paragraphs (c) through (e) of this section that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report according to Table 11 to this subpart and by the dates shown in paragraphs (b)(1) through (3) of this section, by the dates shown in subpart SS of this part, and by the dates shown in Table 12 to this subpart, whichever are applicable.

(1)(i) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2342 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(ii) The first Compliance report must be postmarked no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(2)(i) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(ii) Each subsequent Compliance report must be postmarked no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) and (2) of this section.

(c) *First Compliance report.* The first Compliance report must contain the information specified in paragraphs (c)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official, including the official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) Any changes to the information listed in §63.2382(d)(2) that have occurred since the submittal of the Notification of Compliance Status.

(5) If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the Compliance report must include the information described in §63.10(d)(5)(i).

(6) If there are no deviations from any emission limitation or operating limit that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations, operating limits, or work practice standards during the reporting period.

(7) If there were no periods during which the CMS was out of control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(8) For closed vent systems and control devices used to control emissions, the information specified in paragraphs (c)(8)(i) and (ii) of this section for those planned routine maintenance activities that would require the control device to not meet the applicable emission limit.

(i) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description must include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(ii) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description must include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the applicable emission limit due to planned routine maintenance.

(9) A listing of all transport vehicles into which organic liquids were loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, during the previous 6 months for which vapor tightness documentation as required in §63.2390(c) was not on file at the facility.

(10)(i) A listing of all transfer racks (except those racks at which only unloading of organic liquids occurs) and of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that are part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart.

(ii) If the information specified in paragraph (c)(10)(i) of this section has already been submitted with the Notification of Compliance Status, the information specified in paragraphs (d)(3) and (4) of this section, as applicable, shall be submitted instead.

(d) *Subsequent Compliance reports* . Subsequent Compliance reports must contain the information in paragraphs (c)(1) through (9) of this section and, where applicable, the information in paragraphs (d)(1) through (4) of this section.

(1) For each deviation from an emission limitation occurring at an affected source where you are using a CMS to comply with an emission limitation in this subpart, you must include in the Compliance report the applicable information in paragraphs (d)(1)(i) through (xii) of this section. This includes periods of SSM.

(i) The date and time that each malfunction started and stopped.

(ii) The dates and times that each CMS was inoperative, except for zero (low-level) and high-level checks.

(iii) For each CMS that was out of control, the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of SSM, or during another period.

(v) A summary of the total duration of the deviations during the reporting period, and the total duration as a percentage of the total emission source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percentage of the total emission source operating time during that reporting period.

(viii) An identification of each organic HAP that was potentially emitted during each deviation based on the known organic HAP contained in the liquid(s).

(ix) A brief description of the emission source(s) at which the CMS deviation(s) occurred.

(x) A brief description of each CMS that was out of control during the period.

(xi) The date of the latest certification or audit for each CMS.

(xii) A brief description of any changes in CMS, processes, or controls since the last reporting period.

(2) Include in the Compliance report the information in paragraphs (d)(2)(i) through (iii) of this section, as applicable.

(i) For each storage tank and transfer rack subject to control requirements, include periods of planned routine maintenance during which the control device did not comply with the applicable emission limits in table 2 to this subpart.

(ii) For each storage tank controlled with a floating roof, include a copy of the inspection record (required in §63.1065(b)) when inspection failures occur.

(iii) If you elect to use an extension for a floating roof inspection in accordance with §63.1063(c)(2)(iv)(B) or (e)(2), include the documentation required by those paragraphs.

(3)(i) A listing of any storage tank that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 1 through 6, since the filing of the last Compliance report.

(ii) A listing of any transfer rack that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 7 through 10, since the filing of the last Compliance report.

(4)(i) A listing of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(ii) A listing of all transfer racks (except those racks at which only the unloading of organic liquids occurs) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(e) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to table 11 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission limitation in this subpart, we will consider submission of the Compliance report as satisfying any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report will not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the applicable title V permitting authority.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2390 What records must I keep?

(a) For each emission source identified in §63.2338 that does not require control under this subpart, you must keep all records identified in §63.2343.

(b) For each emission source identified in §63.2338 that does require control under this subpart:

(1) You must keep all records identified in subpart SS of this part and in table 12 to this subpart that are applicable, including records related to notifications and reports, SSM, performance tests, CMS, and performance evaluation plans; and

(2) You must keep the records required to show continuous compliance, as required in subpart SS of this part and in tables 8 through 10 to this subpart, with each emission limitation, operating limit, and work practice standard that applies to you.

(c) For each transport vehicle into which organic liquids are loaded at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, you must keep the applicable records in paragraphs (c)(1) and (2) of this section or alternatively the verification records in paragraph (c)(3) of this section.

(1) For transport vehicles equipped with vapor collection equipment, the documentation described in 40 CFR 60.505(b), except that the test title is: Transport Vehicle Pressure Test-EPA Reference Method 27.

(2) For transport vehicles without vapor collection equipment, current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(3) In lieu of keeping the records specified in paragraph (c)(1) or (2) of this section, as applicable, the owner or operator shall record that the verification of U.S. DOT tank certification or Method 27 of appendix A to 40 CFR part 60 testing, required in table 5 to this subpart, item 2, has been performed. Various methods for the record of verification can be used, such as: A check-off on a log sheet, a list of U.S. DOT serial numbers or Method 27 data, or a position description for gate security showing that the security guard will not allow any trucks on site that do not have the appropriate documentation.

(d) You must keep records of the total actual annual facility-level organic liquid loading volume as defined in §63.2406 through transfer racks to document the applicability, or lack thereof, of the emission limitations in table 2 to this subpart, items 7 through 10.

(e) An owner or operator who elects to comply with §63.2346(a)(4) shall keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A record of the U.S. DOT certification required by §63.2346(a)(4)(ii).

(2) A record of the pressure relief vent setting specified in §63.2346(a)(4)(v).

(3) If complying with §63.2346(a)(4)(vi)(B), keep the records specified in paragraphs (e)(3)(i) and (ii) of this section.

(i) A record of the equipment to be used and the procedures to be followed when reloading the cargo tank or tank car and displacing vapors to the storage tank from which the liquid originates.

(ii) A record of each time the vapor balancing system is used to comply with §63.2346(a)(4)(vi)(B).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006; 73 FR 40982, July 17, 2008]

§ 63.2394 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form at a separate location.

(b) As specified in §63.10(b)(1), you must keep your files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records off site for the remaining 3 years.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

Other Requirements and Information

§ 63.2396 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

(a) *Compliance with other regulations for storage tanks* . (1) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank that is assigned to the OLD affected source and that is both controlled with a floating roof and is in compliance with the provisions of either 40 CFR part 60,

subpart Kb, or 40 CFR part 61, subpart Y, except that records shall be kept for 5 years rather than 2 years for storage tanks that are assigned to the OLD affected source.

(2) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank with a fixed roof that is assigned to the OLD affected source and that is both controlled with a closed vent system and control device and is in compliance with either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart.

(3) As an alternative to paragraphs (a)(1) and (2) of this section, if a storage tank assigned to the OLD affected source is subject to control under 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, you may elect to comply only with the requirements of this subpart for storage tanks meeting the applicability criteria for control in table 2 to this subpart.

(b) *Compliance with other regulations for transfer racks* . After the compliance dates specified in §63.2342, if you have a transfer rack that is subject to 40 CFR part 61, subpart BB, and that transfer rack is in OLD operation, you must meet all of the requirements of this subpart for that transfer rack when the transfer rack is in OLD operation during the loading of organic liquids.

(c) *Compliance with other regulations for equipment leak components.* (1) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections that are subject to a 40 CFR part 60 subpart, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you must comply with the provisions of each subpart for those equipment leak components.

(2) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections subject to 40 CFR part 63, subpart GGG, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you may elect to comply with the provisions of this subpart for all such equipment leak components. You must identify in the Notification of Compliance Status required by §63.2382(b) the provisions with which you will comply.

(d) [Reserved]

(e) *Overlap with other regulations for monitoring, recordkeeping, and reporting* —(1) *Control devices* . After the compliance dates specified in §63.2342, if any control device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements of another 40 CFR part 63 subpart, the owner or operator must be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart EEEE. If complying with the monitoring, recordkeeping, and reporting requirements of the other subpart satisfies the monitoring, recordkeeping, and reporting requirements of this subpart, the owner or operator may elect to continue to comply with the monitoring, recordkeeping, and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

(2) *Equipment leak components* . After the compliance dates specified in §63.2342, if you are applying the applicable recordkeeping and reporting requirements of another 40 CFR part 63 subpart to the valves, pumps, and sampling connection systems associated with a transfer rack subject to this subpart that only unloads organic liquids directly to or via pipeline to a non-tank process unit component or to a storage tank subject to the other 40 CFR part 63 subpart, the owner or operator must be in compliance with the recordkeeping and reporting requirements of this subpart EEEE. If complying with the recordkeeping and reporting requirements of the other subpart satisfies the recordkeeping and reporting requirements of this subpart, the owner or operator may elect to continue to comply with the recordkeeping and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the recordkeeping and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

§ 63.2398 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.2402 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (U.S. EPA) or a delegated authority such as your State, local, or eligible tribal agency. If the EPA Administrator has delegated authority to your State, local, or eligible tribal agency, then that agency, as well as the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office (see list in §63.13) to find out if this subpart is delegated to your State, local, or eligible tribal agency.

(b) In delegating implementation and enforcement authority for this subpart to a State, local, or eligible tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not delegated to the State, local, or eligible tribal agency.

(1) Approval of alternatives to the nonopacity emission limitations, operating limits, and work practice standards in §63.2346(a) through (c) under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

§ 63.2406 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2, 40 CFR part 63, subparts H, PP, SS, TT, UU, and WW, and in this section. If the same term is defined in another subpart and in this section, it will have the meaning given in this section for purposes of this subpart. Notwithstanding the introductory language in §63.921, the terms “container” and “safety device” shall have the meaning found in this subpart and not in §63.921.

Actual annual average temperature, for organic liquids, means the temperature determined using the following methods:

(1) For heated or cooled storage tanks, use the calculated annual average temperature of the stored organic liquid as determined from a design analysis of the storage tank.

(2) For ambient temperature storage tanks:

(i) Use the annual average of the local (nearest) normal daily mean temperatures reported by the National Climatic Data Center; or

(ii) Use any other method that the EPA approves.

Annual average true vapor pressure means the equilibrium partial pressure exerted by the total table 1 organic HAP in the stored or transferred organic liquid. For the purpose of determining if a liquid meets the definition of an organic liquid, the vapor pressure is determined using standard conditions of 77 degrees F and 29.92 inches of mercury. For the purpose of determining whether an organic liquid meets the applicability criteria in table 2, items 1 through 6, to this subpart, use the actual annual average temperature as defined in this subpart. The vapor pressure value in either of these cases is determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss from External Floating-Roof Tanks (incorporated by reference, see §63.14);

(2) Using standard reference texts;

(3) By the American Society for Testing and Materials Method D2879–83, 96 (incorporated by reference, see §63.14); or

(4) Using any other method that the EPA approves.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further processing downstream.

Cargo tank means a liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. This term also refers to the entire cargo tank motor vehicle or trailer. For the purpose of this subpart, vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapors from an emission point to a control device. This system does not include the vapor collection system that is part of some transport vehicles or the loading arm or hose that is used for vapor return. For transfer racks, the closed vent system begins at, and includes, the first block valve on the downstream side of the loading arm or hose used to convey displaced vapors.

Combustion device means an individual unit of equipment, such as a flare, oxidizer, catalytic oxidizer, process heater, or boiler, used for the combustion of organic emissions.

Container means a portable unit in which a material can be stored, transported, treated, disposed of, or otherwise handled. Examples of containers include, but are not limited to, drums and portable cargo containers known as “portable tanks” or “totes.”

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, adsorbers, condensers, and combustion devices. Primary condensers, steam strippers, and fuel gas systems are not considered control devices.

Crude oil means any of the naturally occurring liquids commonly referred to as crude oil, regardless of specific physical properties. Only those crude oils downstream of the first point of custody transfer after the production field are considered crude oils in this subpart.

Custody transfer means the transfer of hydrocarbon liquids after processing and/or treatment in the producing operations, or from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

Design evaluation means a procedure for evaluating control devices that complies with the requirements in §63.985(b)(1)(i).

Deviation means any instance in which an affected source subject to this subpart, or portion thereof, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during SSM.

Emission limitation means an emission limit, opacity limit, operating limit, or visible emission limit.

Equipment leak component means each pump, valve, and sampling connection system used in organic liquids service at an OLD operation. Valve types include control, globe, gate, plug, and ball. Relief and check valves are excluded.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (4.0 pounds per square inch absolute (psia)) or greater which is used as a fuel for internal combustion engines. Aviation gasoline is included in this definition.

High throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) a total of 11.8 million liters per year or greater of organic liquids.

In organic liquids service means that an equipment leak component contains or contacts organic liquids having 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart.

Low throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) less than 11.8 million liters per year of organic liquids.

On-site or *on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source to which the records pertain, storage in central files elsewhere at the major source, or electronically available at the site.

Organic liquid means:

(1) Any non-crude oil liquid or liquid mixture that contains 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart, as determined using the procedures specified in §63.2354(c).

(2) Any crude oils downstream of the first point of custody transfer.

(3) Organic liquids for purposes of this subpart do not include the following liquids:

(i) Gasoline (including aviation gasoline), kerosene (No. 1 distillate oil), diesel (No. 2 distillate oil), asphalt, and heavier distillate oils and fuel oils;

(ii) Any fuel consumed or dispensed on the plant site directly to users (such as fuels for fleet refueling or for refueling marine vessels that support the operation of the plant);

(iii) Hazardous waste;

(iv) Wastewater;

(v) Ballast water: or

(vi) Any non-crude oil liquid with an annual average true vapor pressure less than 0.7 kilopascals (0.1 psia).

Organic liquids distribution (OLD) operation means the combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding, and packaging.

Permitting authority means one of the following:

(1) The State Air Pollution Control Agency, local agency, or other agency authorized by the EPA Administrator to carry out a permit program under 40 CFR part 70; or

(2) The EPA Administrator, in the case of EPA-implemented permit programs under title V of the CAA (42 U.S.C. 7661) and 40 CFR part 71.

Plant site means all contiguous or adjoining surface property that is under common control, including surface properties that are separated only by a road or other public right-of-way. Common control includes surface properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which are not engaged in the manufacture of products for commercial sale, except in a *de minimis* manner.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2, as applicable.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device that functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event.

Shutdown means the cessation of operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), including equipment required or used to comply with this subpart, or the emptying and degassing of a storage tank. Shutdown as defined here includes, but is not limited to, events that result from periodic maintenance, replacement of equipment, or repair.

Startup means the setting in operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), for any purpose. Startup also includes the placing in operation of any individual piece of equipment required or used to comply with this subpart including, but not limited to, control devices and monitors.

Storage tank means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, or reinforced plastic) that provide structural support and is designed to hold a bulk quantity of liquid. Storage tanks do not include:

(1) Units permanently attached to conveyances such as trucks, trailers, rail cars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Bottoms receivers;

(4) Surge control vessels;

(5) Vessels storing wastewater; or

(6) Reactor vessels associated with a manufacturing process unit.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within chemical manufacturing processes when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Tank car means a car designed to carry liquid freight by rail, and including a permanently attached tank.

Total actual annual facility-level organic liquid loading volume means the total facility-level actual volume of organic liquid loaded for transport within or out of the facility through transfer racks that are part of the affected source into

transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) based on a 3-year rolling average, calculated annually.

(1) For existing affected sources, each 3-year rolling average is based on actual facility-level loading volume during each calendar year (January 1 through December 31) in the 3-year period. For calendar year 2004 only (the first year of the initial 3-year rolling average), if an owner or operator of an affected source does not have actual loading volume data for the time period from January 1, 2004, through February 2, 2004 (the time period prior to the effective date of the OLD NESHAP), the owner or operator shall compute a facility-level loading volume for this time period as follows: At the end of the 2004 calendar year, the owner or operator shall calculate a daily average facility-level loading volume (based on the actual loading volume for February 3, 2004, through December 31, 2004) and use that daily average to estimate the facility-level loading volume for the period of time from January 1, 2004, through February 2, 2004. The owner or operator shall then sum the estimated facility-level loading volume from January 1, 2004, through February 2, 2004, and the actual facility-level loading volume from February 3, 2004, through December 31, 2004, to calculate the annual facility-level loading volume for calendar year 2004.

(2)(i) For new affected sources, the 3-year rolling average is calculated as an average of three 12-month periods. An owner or operator must select as the beginning calculation date with which to start the calculations as either the initial startup date of the new affected source or the first day of the calendar month following the month in which startup occurs. Once selected, the date with which the calculations begin cannot be changed.

(ii) The initial 3-year rolling average is based on the projected maximum facility-level annual loading volume for each of the 3 years following the selected beginning calculation date. The second 3-year rolling average is based on actual facility-level loading volume for the first year of operation plus a new projected maximum facility-level annual loading volume for second and third years following the selected beginning calculation date. The third 3-year rolling average is based on actual facility-level loading volume for the first 2 years of operation plus a new projected maximum annual facility-level loading volume for the third year following the beginning calculation date. Subsequent 3-year rolling averages are based on actual facility-level loading volume for each year in the 3-year rolling average.

Transfer rack means a single system used to load organic liquids into, or unload organic liquids out of, transport vehicles or containers. It includes all loading and unloading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Transport vehicle means a cargo tank or tank car.

Vapor balancing system means:

(1) A piping system that collects organic HAP vapors displaced from transport vehicles or containers during loading and routes the collected vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. For containers, the piping system must route the displaced vapors directly to the appropriate storage tank or to another storage tank connected to a common header in order to qualify as a vapor balancing system; or

(2) A piping system that collects organic HAP vapors displaced from the loading of a storage tank and routes the collected vapors to the transport vehicle from which the storage tank is filled.

Vapor collection system means any equipment located at the source (i.e., at the OLD operation) that is not open to the atmosphere; that is composed of piping, connections, and, if necessary, flow-inducing devices; and that is used for:

(1) Containing and conveying vapors displaced during the loading of transport vehicles to a control device;

(2) Containing and directly conveying vapors displaced during the loading of containers; or

(3) Vapor balancing. This does not include any of the vapor collection equipment that is installed on the transport vehicle.

Vapor-tight transport vehicle means a transport vehicle that has been demonstrated to be vapor-tight. To be considered vapor-tight, a transport vehicle equipped with vapor collection equipment must undergo a pressure change of no more than 250 pascals (1 inch of water) within 5 minutes after it is pressurized to 4,500 pascals (18 inches of water). This capability must be demonstrated annually using the procedures specified in EPA Method 27 of 40 CFR part 60, appendix A. For all other transport vehicles, vapor tightness is demonstrated by performing the U.S. DOT pressure test procedures for tank cars and cargo tanks.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

Table 1 to Subpart EEEE of Part 63—Organic Hazardous Air Pollutants

You must use the organic HAP information listed in the following table to determine which of the liquids handled at your facility meet the HAP content criteria in the definition of Organic Liquid in §63.2406.

Compound name	CAS No.[1]
2,4-D salts and esters	94–75–7
Acetaldehyde	75–07–0
Acetonitrile	75–05–8
Acetophenone	98–86–2
Acrolein	107–02–8
Acrylamide	79–06–1
Acrylic acid	79–10–7
Acrylonitrile	107–13–1
Allyl chloride	107–05–1
Aniline	62–53–3
Benzene	71–43–2
Biphenyl	92–52–4
Butadiene (1,3-)	106–99–0
Carbon tetrachloride	56–23–5
Chloroacetic acid	79–11–8
Chlorobenzene	108–90–7
2-Chloro-1,3-butadiene (Chloroprene)	126–99–8
Chloroform	67–66–3
m-Cresol	108–39–4
o-Cresol	95–48–7
p-Cresol	106–44–5
Cresols/cresylic acid	1319–77–3
Cumene	98–82–8
Dibenzofurans	132–64–9

Compound name	CAS No.[1]
Dibutylphthalate	84–74–2
Dichloroethane (1,2-) (Ethylene dichloride) (EDC)	107–06–2
Dichloropropene (1,3-)	542–75–6
Diethanolamine	111–42–2
Diethyl aniline (N,N-)	121–69–7
Diethylene glycol monobutyl ether	112–34–5
Diethylene glycol monomethyl ether	111–77–3
Diethyl sulfate	64–67–5
Dimethyl formamide	68–12–2
Dimethylhydrazine (1,1-)	57–14–7
Dioxane (1,4-) (1,4-Diethyleneoxide)	123–91–1
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106–89–8
Epoxybutane (1,2-)	106–88–7
Ethyl acrylate	140–88–5
Ethylbenzene	100–41–4
Ethyl chloride (Chloroethane)	75–00–3
Ethylene dibromide (Dibromomethane)	106–93–4
Ethylene glycol	107–21–1
Ethylene glycol dimethyl ether	110–71–4
Ethylene glycol monomethyl ether	109–86–4
Ethylene glycol monomethyl ether acetate	110–49–6
Ethylene glycol monophenyl ether	122–99–6
Ethylene oxide	75–21–8
Ethylidene dichloride (1,1-Dichloroethane)	75–34–3
Formaldehyde	50–00–0
Hexachloroethane	67–72–1
Hexane	110–54–3
Hydroquinone	123–31–9
Isophorone	78–59–1
Maleic anhydride	108–31–6
Methanol	67–56–1
Methyl chloride (Chloromethane)	74–87–3
Methylene chloride (Dichloromethane)	75–09–2
Methylenedianiline (4,4′-)	101–77–9
Methylene diphenyl diisocyanate	101–68–8

Compound name	CAS No.[1]
Methyl hydrazine	60–34–4
Methyl isobutyl ketone (Hexone) (MIBK)	108–10–1
Methyl methacrylate	80–62–6
Methyl tert-butyl ether (MTBE)	1634–04–4
Naphthalene	91–20–3
Nitrobenzene	98–95–3
Phenol	108–9–52
Phthalic anhydride	85–44–9
Polycyclic organic matter	50–32–8
Propionaldehyde	123–38–6
Propylene dichloride (1,2-Dichloropropane)	78–87–5
Propylene oxide	75–56–9
Quinoline	91–22–5
Styrene	100–42–5
Styrene oxide	96–09–3
Tetrachloroethane (1,1,2,2-)	79–34–5
Tetrachloroethylene (Perchloroethylene)	127–18–4
Toluene	108–88–3
Toluene diisocyanate (2,4-)	584–84–9
o-Toluidine	95–53–4
Trichlorobenzene (1,2,4-)	120–82–1
Trichloroethane (1,1,1-) (Methyl chloroform)	71–55–6
Trichloroethane (1,1,2-) (Vinyl trichloride)	79–00–5
Trichloroethylene	79–01–6
Triethylamine	121–44–8
Trimethylpentane (2,2,4-)	540–84–1
Vinyl acetate	108–05–4
Vinyl chloride (Chloroethylene)	75–01–4
Vinylidene chloride (1,1-Dichloroethylene)	75–35–4
Xylene (m-)	108–38–3
Xylene (o-)	95–47–6
Xylene (p-)	106–42–3
Xylenes (isomers and mixtures)	1330–20–7

[1]CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006]

Table 2 to Subpart EEEE of Part 63—Emission Limits

As stated in §63.2346, you must comply with the emission limits for the organic liquids distribution emission sources as follows:

If you own or operate . . .	And if . . .	Then you must . . .
1. A storage tank at an existing affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia).	i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR
		ii. Comply with the work practice standards specified in table 4 to this subpart, items 1.a, 1.b, or 1.c for tanks storing liquids described in that table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
2. A storage tank at an existing affected source with a capacity ≥189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
3. A storage tank at a reconstructed or new affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <37.9 cubic meters (10,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
4. A storage tank at a reconstructed or new affected source with a capacity ≥37.9 cubic meters (10,000 gallons) and <189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥0.7 kilopascals (0.1 psia) and <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.

If you own or operate . . .	And if . . .	Then you must . . .
5. A storage tank at a reconstructed or new affected source with a capacity ≥189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
6. A storage tank at an existing, reconstructed, or new affected source meeting the capacity criteria specified in table 2 of this subpart, items 1 through 5.	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥76.6 kilopascals (11.1 psia).	i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR
		ii. Comply with the work practice standards specified in table 4 to this subpart, item 2.a, for tanks storing the liquids described in that table.
7. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons and less than 10 million gallons.	a. The total table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 98 percent by weight and is being loaded into a transport vehicle.	i. For all such loading arms at the rack, reduce emissions of total organic HAP (or, upon approval, TOC) from the loading of organic liquids either by venting the emissions that occur during loading through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS, achieving at least 98 weight-percent HAP reduction, OR, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air; OR
		ii. During the loading of organic liquids, comply with the work practice standards specified in item 3 of table 4 to this subpart.
8. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is ≥10 million gallons.	a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle.	i. See the requirements in items 7.a.i and 7.a.ii of this table.

If you own or operate . . .	And if . . .	Then you must . . .
9. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is less than 800,000 gallons	a. The total Table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 25 percent by weight and is being loaded into a transport vehicle	i. See the requirements in items 7.a.i and 7.a.ii of this table.
	b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons	i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of Table 4 to this subpart.
10. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons.	a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle.	i. See the requirements in items 7.a.i and 7.a.ii of this table.
	b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons.	i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR
		ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of table 4 to this subpart.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006; 73 FR 21830, Apr. 23, 2008]

Table 3 to Subpart EEEE of Part 63—Operating Limits—High Throughput Transfer Racks

As stated in §63.2346(e), you must comply with the operating limits for existing, reconstructed, or new affected sources as follows:

For each existing, each reconstructed, and each new affected source using . . .	You must . . .
1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart	Maintain the daily average fire box or combustion zone temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart	a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	c. Maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.
3. An absorber to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.
4. A condenser to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds at the condenser exit less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Maintain the daily average condenser exit temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND

For each existing, each reconstructed, and each new affected source using . . .	You must . . .
	Achieve a pressure reduction during each adsorption bed regeneration cycle greater than or equal to the pressure reduction established during the design evaluation or performance test that demonstrated compliance with the emission limit.
6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Replace the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
7. A flare to comply with an emission limit in table 2 to this subpart	a. Comply with the equipment and operating requirements in §63.987(a); AND b. Conduct an initial flare compliance assessment in accordance with §63.987(b); AND
	c. Install and operate monitoring equipment as specified in §63.987(c).
8. Another type of control device to comply with an emission limit in table 2 to this subpart	Submit a monitoring plan as specified in §§63.995(c) and 63.2366(b), and monitor the control device in accordance with that plan.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42914, July 28, 2006]

Table 4 to Subpart EEEE of Part 63—Work Practice Standards

As stated in §63.2346, you may elect to comply with one of the work practice standards for existing, reconstructed, or new affected sources in the following table. If you elect to do so, . . .

For each . . .	You must . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 5	a. Comply with the requirements of 40 CFR part 63, subpart WW (control level 2), if you elect to meet 40 CFR part 63, subpart WW (control level 2) requirements as an alternative to the emission limit in table 2 to this subpart, items 1 through 5; OR
	b. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR
	c. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled.
2. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, item 6	a. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR b. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled.

For each . . .	You must . . .
3. Transfer rack subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. If the option of a vapor balancing system is selected, install and, during the loading of organic liquids, operate a system that meets the requirements in table 7 to this subpart, item 3.b.i and item 3.b.ii, as applicable; OR
	b. Comply with the requirements of §63.984 during the loading of organic liquids, for routing emissions to a fuel gas system or back to a process.
4. Pump, valve, and sampling connection that operates in organic liquids service at least 300 hours per year at an existing, reconstructed, or new affected source	Comply with the requirements for pumps, valves, and sampling connections in 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H.
5. Transport vehicles equipped with vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10	Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles, and comply with the provisions in 40 CFR 60.502(f), (g), (h), and (i), except substitute the term transport vehicle at each occurrence of tank truck or gasoline tank truck in those paragraphs.
6. Transport vehicles equipped without vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10	Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR 180 (cargo tanks) or 49 CFR 173.31 (tank cars).

[71 FR 42915, July 28, 2006]

Table 5 to Subpart EEEE of Part 63—Requirements for Performance Tests and Design Evaluations

As stated in §§63.2354(a) and 63.2362, you must comply with the requirements for performance tests and design evaluations for existing, reconstructed, or new affected sources as follows:

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
1. Each existing, each reconstructed, and each new affected source using a nonflare control device to comply with an emission limit in Table 2 to this subpart, items 1 through 10	a. A performance test to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, OR the exhaust concentration of each combustion device; OR	i. §63.985(b)(1)(ii), §63.988(b), §63.990(b), or §63.995(b)	(1) EPA Method 1 or 1A in appendix A–1 of 40 CFR part 60, as appropriate	(A) Sampling port locations and the required number of traverse points	(i) Sampling sites must be located at the inlet and outlet of each control device if complying with the control efficiency requirement or at the outlet of the control device if complying with the exhaust concentration requirement; AND (ii) the outlet sampling site must be located at each control device prior to any releases to the atmosphere.

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
			(2) EPA Method 2, 2A, 2C, 2D, or 2F in appendix A–1 of 40 CFR part 60, or EPA Method 2G in appendix A–2 of 40 CFR part 60, as appropriate	(A) Stack gas velocity and volumetric flow rate	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.
			(3) EPA Method 3 or 3B in appendix A–2 of 40 CFR part 60, as appropriate	(A) Concentration of CO2 and O2 and dry molecular weight of the stack gas	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.
			(4) EPA Method 4 in appendix A–3 of 40 CFR part 60	(A) Moisture content of the stack gas	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.
			(5) EPA Method 18 in appendix A–6 of 40 CFR part 60, or EPA Method 25 or 25A in appendix A–7 of 40 CFR part 60, as appropriate, or EPA Method 316 in appendix A of 40 CFR part 63 for measuring form-aldehyde	(A) Total organic HAP (or, upon approval, TOC), or formaldehyde emissions	(i) The organic HAP used for the calibration gas for EPA Method 25A in appendix A–7 of 40 CFR part 60 must be the single organic HAP representing the largest percent by volume of emissions; AND (ii) During the performance test, you must establish the operating parameter limits within which total organic HAP (or, upon approval, TOC) emissions are reduced by the required weight-percent or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration.

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
	b. A design evaluation (for nonflare control devices) to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, or the exhaust concentration of each combustion control device	§63.985(b)(1)(i)			During a design evaluation, you must establish the operating parameter limits within which total organic HAP, (or, upon approval, TOC) emissions are reduced by at least 95 weight-percent for storage tanks or 98 weight-percent for transfer racks, or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration
2. Each transport vehicle that you own that is equipped with vapor collection equipment and is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	A performance test to determine the vapor tightness of the tank and then repair as needed until it passes the test.		EPA Method 27 in appendix A of 40 CFR part 60	Vapor tightness	The pressure change in the tank must be no more than 250 pascals (1 inch of water) in 5 minutes after it is pressurized to 4,500 pascals (18 inches of water).

[71 FR 42916, July 28, 2006, as amended at 73 FR 21831, Apr. 23, 2008]

Table 6 to Subpart EEEE of Part 63—Initial Compliance With Emission Limits

As stated in §§63.2370(a) and 63.2382(b), you must show initial compliance with the emission limits for existing, reconstructed, or new affected sources as follows:

For each . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 through 6	Reduce total organic HAP (or, upon approval, TOC) emissions by at least 95 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv	Total organic HAP (or, upon approval, TOC) emissions, based on the results of the performance testing or design evaluation specified in Table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 95 weight-percent or as an option for nonflare combustion devices to an exhaust concentration ≤20 ppmv.
2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	Reduce total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids by at least 98 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv	Total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids, based on the results of the performance testing or design evaluation specified in table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 98 weight-percent or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv.

[71 FR 42918, July 28, 2006, as amended at 73 FR 21832, Apr. 23, 2008]

Table 7 to Subpart EEEE of Part 63—Initial Compliance With Work Practice Standards

For each . . .	If you . . .	You have demonstrated initial compliance if . . .
1. Storage tank at an existing affected source meeting either set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 or 2	a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a	i. After emptying and degassing, you visually inspect each internal floating roof before the refilling of the storage tank and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the refilling of the storage tank.
	b. Route emissions to a fuel gas system or back to a process	i. You meet the requirements in §63.984(b) and submit the statement of connection required by §63.984(c).
	c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system	i. You meet the requirements in §63.2346(a)(4).
2. Storage tank at a reconstructed or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 3 through 5	a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a	i. You visually inspect each internal floating roof before the initial filling of the storage tank, and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the initial filling of the storage tank.
	b. Route emissions to a fuel gas system or back to a process	i. See item 1.b.i of this table.

For each . . .	If you . . .	You have demonstrated initial compliance if . . .
	c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system	i. See item 1.c.i of this table.
3. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. Load organic liquids only into transport vehicles having current vapor tightness certification as described in table 4 to this subpart, item 5 and item 6	i. You comply with the provisions specified in table 4 to this subpart, item 5 or item 6, as applicable.
	b. Install and, during the loading of organic liquids, operate a vapor balancing system	i. You design and operate the vapor balancing system to route organic HAP vapors displaced from loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. ii. You design and operate the vapor balancing system to route organic HAP vapors displaced from loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.
	c. Route emissions to a fuel gas system or back to a process	i. See item 1.b.i of this table.
4. Equipment leak component, as defined in §63.2406, that operates in organic liquids service ≥300 hours per year at an existing, reconstructed, or new affected source	a. Carry out a leak detection and repair program or equivalent control according to one of the subparts listed in table 4 to this subpart, item 4.a	i. You specify which one of the control programs listed in table 4 to this subpart you have selected, OR ii. Provide written specifications for your equivalent control approach.

[71 FR 42918, July 28, 2006, as amended at 73 FR 21833, Apr. 23, 2008]

Table 8 to Subpart EEEE of Part 63—Continuous Compliance With Emission Limits

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the emission limits for existing, reconstructed, or new affected sources according to the following table:

For each . . .	For the following emission limit . . .	You must demonstrate continuous compliance by . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 6	a. Reduce total organic HAP (or, upon approval, TOC) emissions from the closed vent system and control device by 95 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices	i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378; AND ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with the emission limit.
2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. Reduce total organic HAP (or, upon approval, TOC) emissions during the loading of organic liquids from the closed vent system and control device by 98 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices	i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378 during the loading of organic liquids; AND ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with the emission limit during the loading of organic liquids.

[71 FR 42919, July 28, 2006]

Table 9 to Subpart EEEE of Part 63—Continuous Compliance With Operating Limits—High Throughput Transfer Racks

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the operating limits for existing, reconstructed, or new affected sources according to the following table:

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average fire box or combustion zone, as applicable, temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring and recording fire box or combustion zone, as applicable, temperature every 15 minutes and maintaining the daily average fire box temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart.	a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND	i. Replacing the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND	i. Continuously monitoring and recording the temperature at the inlet of the catalyst bed at least every 15 minutes and maintaining the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	c. Maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring and recording the temperature at the outlet of the catalyst bed every 15 minutes and maintaining the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
3. An absorber to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the organic concentration in the absorber exhaust and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring the scrubbing liquid temperature and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the difference between the specific gravities greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Keeping the applicable records required in §63.998.

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
4. A condenser to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds at the exit of the condenser less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the organic concentration at the condenser exit and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average condenser exit temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring and recording the temperature at the exit of the condenser at least every 15 minutes and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the daily average organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test; AND Achieve greater than or equal to the pressure reduction during the adsorption bed regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Maintaining the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Achieving greater than or equal to the pressure reduction during the regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iv. Keeping the applicable records required in §63.998.

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Replace the existing adsorbent in each segment of the bed before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Replacing the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Keeping the applicable records required in §63.998.
7. A flare to comply with an emission limit in table 2 to this subpart.	a. Maintain a pilot flame in the flare at all times that vapors may be vented to the flare (§63.11(b)(5)); AND	i. Continuously operating a device that detects the presence of the pilot flame; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain a flare flame at all times that vapors are being vented to the flare (§63.11(b)(5)); AND	i. Maintaining a flare flame at all times that vapors are being vented to the flare; AND ii. Keeping the applicable records required in §63.998.
	c. Operate the flare with no visible emissions, except for up to 5 minutes in any 2 consecutive hours (§63.11(b)(4)); AND EITHER	i. Operating the flare with no visible emissions exceeding the amount allowed; AND ii. Keeping the applicable records required in §63.998.
	d.1. Operate the flare with an exit velocity that is within the applicable limits in §63.11(b)(7) and (8) and with a net heating value of the gas being combusted greater than the applicable minimum value in §63.11(b)(6)(ii); OR	i. Operating the flare within the applicable exit velocity limits; AND ii. Operating the flare with the gas heating value greater than the applicable minimum value; AND iii. Keeping the applicable records required in §63.998.
	d.2. Adhere to the requirements in §63.11(b)(6)(i).	i. Operating the flare within the applicable limits in 63.11(b)(6)(i); AND ii. Keeping the applicable records required in §63.998.
8. Another type of control device to comply with an emission limit in table 2 to this subpart.	Submit a monitoring plan as specified in §§63.995(c) and 63.2366(c), and monitor the control device in accordance with that plan.	Submitting a monitoring plan and monitoring the control device according to that plan.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42919, July 28, 2006]

Table 10 to Subpart EEEE of Part 63—Continuous Compliance With Work Practice Standards

As stated in §§63.2378(a) and (b) and 63.2386(c)(6), you must show continuous compliance with the work practice standards for existing, reconstructed, or new affected sources according to the following table:

For each . . .	For the following standard . . .	You must demonstrate continuous compliance by . . .
1. Internal floating roof (IFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity, and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5.	a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b).	i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR once per year (§63.1063(d)(2)); AND ii. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(1), (d)(1), and (e)); AND iii. Keeping the tank records required in §63.1065.
2. External floating roof (EFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5.	a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b).	i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each EFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(2), (d), and (e)); AND ii. Performing seal gap measurements on the secondary seal of each EFR at least once every year, and on the primary seal of each EFR at least every 5 years (§63.1063(c)(2), (d), and (e)); AND iii. Keeping the tank records required in §63.1065.
3. IFR or EFR tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5.	a. Repair the conditions causing storage tank inspection failures (§63.1063(e)).	i. Repairing conditions causing inspection failures: before refilling the storage tank with organic liquid, or within 45 days (or up to 105 days with extensions) for a tank containing organic liquid; AND ii. Keeping the tank records required in §63.1065(b).
4. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source.	a. Ensure that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable.	i. Ensuring that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable.
	b. Install and, during the loading of organic liquids, operate a vapor balancing system.	i. Monitoring each potential source of vapor leakage in the system quarterly during the loading of a transport vehicle or the filling of a container using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards.
	c. Route emissions to a fuel gas system or back to a process.	i. Continuing to meet the requirements specified in §63.984(b).

For each . . .	For the following standard . . .	You must demonstrate continuous compliance by . . .
5. Equipment leak component, as defined in §63.2406, that operates in organic liquids service at least 300 hours per year.	a. Comply with the requirements of 40 CFR part 63, subpart TT, UU, or H.	i. Carrying out a leak detection and repair program in accordance with the subpart selected from the list in item 5.a of this table.
6. Storage tank at an existing, reconstructed, or new affected source meeting any of the tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 6.	a. Route emissions to a fuel gas system or back to the process.	i. Continuing to meet the requirements specified in §63.984(b).
	b. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system.	i. Monitoring each potential source of vapor leakage in the system quarterly during the loading of a transport vehicle or the filling of a container using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42922, July 28, 2006]

Table 11 to Subpart EEEE of Part 63—Requirements for Reports

As stated in §63.2386(a), (b), and (f), you must submit compliance reports and startup, shutdown, and malfunction reports according to the following table:

You must submit a(n) . . .	The report must contain . . .	You must submit the report . . .
1. Compliance report or Periodic Report	a. The information specified in §63.2386(c), (d), (e). If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the report must also include the information in §63.10(d)(5)(i); AND	Semiannually, and it must be postmarked by January 31 or July 31, in accordance with §63.2386(b).
	b. The information required by 40 CFR part 63, subpart TT, UU, or H, as applicable, for pumps, valves, and sampling connections; AND	See the submission requirement in item 1.a of this table.
	c. The information required by §63.999(c); AND	See the submission requirement in item 1.a of this table.
	d. The information specified in §63.1066(b) including: Notification of inspection, inspection results, requests for alternate devices, and requests for extensions, as applicable.	See the submission requirement in item 1.a. of this table.
2. Immediate SSM report if you had a SSM that resulted in an applicable emission standard in the relevant standard being exceeded, and you took an action that was not consistent with your SSM plan	a. The information required in §63.10(d)(5)(ii)	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority (§63.10(d)(5)(ii)).

[71 FR 42923, July 28, 2006]

Table 12 to Subpart EEEE of Part 63—Applicability of General Provisions to Subpart EEEE

As stated in §§63.2382 and 63.2398, you must comply with the applicable General Provisions requirements as follows:

Citation	Subject	Brief description	Applies to subpart EEEE
§63.1	Applicability	Initial applicability determination; Applicability after standard established; Permit requirements; Extensions, Notifications	Yes.
§63.2	Definitions	Definitions for part 63 standards	Yes.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, Severability	Yes.
§63.5	Construction/Reconstruction	Applicability; Applications; Approvals	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.6(a)	Compliance with Standards/O&M Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved].		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in this subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)–(4)	[Reserved].		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources that become major must comply with major source standards by date indicated in this subpart or by equivalent time period (*e.g* ., 3 years)	Yes.
§63.6(d)	[Reserved].		
§63.6(e)(1)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; and operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes.
§63.6(e)(2)	[Reserved].		
§63.6(e)(3)	SSM Plan	Requirement for SSM plan; content of SSM plan; actions during SSM	Yes; however, (1) the 2-day reporting requirement in paragraph §63.6(e)(3)(iv) does not apply and (2) §63.6(e)(3) does not apply to emissions sources not requiring control.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	Yes.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)	Opacity/Visible Emission Standards	Requirements for compliance with opacity and visible emission standards	No; except as it applies to flares for which Method 22 observations are required as part of a flare compliance assessment.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must conduct 180 days after compliance date	Yes.
§63.7(a)(3)	Section 114 Authority	Adminsitrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Rescheduling	If you have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM	Yes.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes; however, for transfer racks per §§63.987(b)(3)(i)(A)–(B) and 63.997(e)(1)(v)(A)–(B) provide exceptions to the requirement for test runs to be at least 1 hour each.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	Yes; however, performance test data is to be submitted with the Notification of Compliance Status according to the schedule specified in §63.9(h)(1)–(6) below.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§63.8(a)(3)	[Reserved].		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11	Yes; however, monitoring requirements in §63.987(c) also apply.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes.
§63.8(c)(1)(i)—(iii)	Routine and Predictable SSM	Keep parts for routine repairs readily available; reporting requirements for SSM when action is described in SSM plan.	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission or parameter measurements; must verify operational status before or at performance test	Yes.
§63.8(c)(4)	CMS Requirements	CMS must be operating except during breakdown, out-of control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes; however, COMS are not applicable.
§63.8(c)(5)	COMS Minimum Procedures	COMS minimum procedures	No.
§63.8(c)(6)–(8)	CMS Requirements	Zero and high level calibration check requirements. Out-of-control periods	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes, but only applies for CEMS.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes, but 40 CFR part 63, subpart SS also provides procedures for approval of CPMS.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	Yes; however, COMS are not applicable.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)–(2), (4)–(5)	Initial Notifications	Submit notification within 120 days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate (BACT/LAER)	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes; however, there are no opacity standards.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/visible emissions, which are due 30 days after; when to submit to Federal vs. State authority	Yes; however, (1) there are no opacity standards and (2) all initial Notification of Compliance Status, including all performance test data, are to be submitted at the same time, either within 240 days after the compliance date or within 60 days after the last performance test demonstrating compliance has been completed, whichever occurs first.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	No. These changes will be reported in the first and subsequent compliance reports.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)–(iv)	Records Related to Startup, Shutdown, and Malfunction	Occurrence of each for operations (process equipment); occurrence of each malfunction of air pollution control equipment; maintenance on air pollution control equipment; actions during SSM	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.10(b)(2)(vi)–(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)	Records	Additional records for CMS	Yes.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	SSM Reports	Contents and submission	Yes.
§63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; 2–3 copies of COMS performance evaluation	Yes; however, COMS are not applicable.
§63.10(e)(3)(i)–(iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	Yes; however, note that the title of the report is the compliance report; deviations include excess emissions and parameter exceedances.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions or parameter monitoring exceedance (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13)	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
§63.10(e)(3)(vi)–(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS (now called deviations); requires all of the information in §§63.10(c)(5)–(13) and 63.8(c)(7)–(8)	Yes.
§63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11(b)	Flares	Requirements for flares	Yes; §63.987 requirements apply, and the section references §63.11(b).
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	Yes.
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006; 71 FR 42924, July 28, 2006]

Attachment D
to Part 70 Operating Permit No. T157-27029-00003

Tate & Lyle Ingredients Americas LLC
2245 North Sagamore Parkway, Lafayette, IN 47904

Title 40: Protection of Environment
Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers
§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the

applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations
§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary CI RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary CI RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution

control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:

C_i= concentration of CO or formaldehyde at the control device inlet,

C_o= concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide

(CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2concentration is measured in lieu of oxygen concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209\, F_d}{F_c} \qquad \text{(Eq. 2)}$$

Where:

F_o= Fuel factor based on the ratio of oxygen volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{co_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 3)}$$

Where:

X_{co2}= CO_2correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

(iii) Calculate the $NO_X$and SO_2gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{co_2}}{\%CO_2} \qquad \text{(Eq. 4)}$$

Where:

$\%CO_2$= Measured CO_2concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (8) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any 15-minute period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (b)(3) of this section.

(5) Record the results of each inspection, calibration, and validation check.

(6) You must develop a site-specific monitoring plan that addresses paragraphs (b)(6)(i) through (vi) of this section.

(i) Installation of the CPMS sampling probe or other interface at the appropriate location to obtain representative measurements;

(ii) Performance and equipment specifications for the sample interface, parametric signal analyzer, and the data collection and reduction systems;

(iii) Performance evaluation procedures and acceptance criteria (*e.g.,* calibrations);

(iv) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1), (c)(3), and (c)(4)(ii);

(v) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(vi) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c), (e)(1), and (e)(2)(i).

(7) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(8) You must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the

following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(k) If you have an operating limitation that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (k)(1) through (4) of this section.

(1) Locate the temperature sensor and other necessary equipment in a position that provides a representative temperature.

(2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.

(3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

(4) Conduct a temperature measurement device calibration check at least every 3 months.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that the stationary RICE is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs

(f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101–549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X(such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	**You must meet the following emission limitation, except during periods of startup . . .**	**During periods of startup you must . . .**
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus; 10 percent from the pressure drop across the catalyst measured during the initial performance test and
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent $O_2$and using NSCR; or	b. maintain the termperature of your stationary RICE exhaust so the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent $O_2$and using NSCR.	
2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent $O_2$and not using NSCR; or	
4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent $O_2$and using NSCR.	

[75 FR 51592, Aug. 20, 2010]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	**You must meet the following operating limitation . . .**
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[2]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O_2; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this

subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE with a brake horsepower ≥5,000 located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test

indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE for existing sources:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O_2 at the inlet and outlet of the control device; and	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 (2005)[a] (incorporated by reference, *see* §63.14). Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 (2005)[a,b] (incorporated by reference, *see* §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		iv. Measure formaldehyde at the inlet and the outlet of the control device.	(1) Method 320 of 40 CFR part 63, appendix A; or ASTM D6348–03[c], provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 of 40 CFR part 63, appendix A; or ASTM D6348–03[c], provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		v. Measure CO at the exhaust of the stationary RICE.	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005)[a], Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.

[b]You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.

[c]You may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[75 FR 9682, Mar. 3, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. 2SLB and 4SLB stationary RICE >500 HP located at a major source and new or reconstructed CI stationary RICE >500 HP located at a major source	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
2. 2SLB and 4SLB stationary RICE >500 HP located at a major source and new or reconstructed CI stationary RICE >500 HP located at a major source	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
3. 2SLB and 4SLB stationary RICE >500 HP located at a major source and new or reconstructed CI stationary RICE >500 HP located at a major source	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2or CO_2at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
4. 4SRB stationary RICE >500 HP located at a major source	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
5. 4SRB stationary RICE >500 HP located at a major source	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
6. Stationary RICE >500 HP located at a major source	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
7. Stationary RICE >500 HP located at a major source	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
8. Existing stationary non-emergency RICE ≥100 HP located at a major source, existing non-emergency CI stationary RICE >500 HP, and existing stationary non-emergency RICE ≥100 HP located at an area source	a. Reduce CO or formaldehyde emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
9. Existing stationary non-emergency RICE ≥100 HP located at a major source, existing non-emergency CI stationary RICE >500 HP, and existing stationary non-emergency RICE ≥100 HP located at an area source	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.

[75 FR 9684, Mar. 3, 2010]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations and Operating Limitations

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a]and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved;[a]and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year	a. Reduce CO emissions and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;[a]and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE	a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51600, Aug. 20, 2010]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit the report ...
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4)	i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.

[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Significant Source Modification to a Part 70 Source and a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Tate & Lyle Ingredients Americas LLC
Source Location:	2245 North Sagamore Parkway, Lafayette, IN 47904
County:	Tippecanoe
SIC Code:	2046
Significant Source Modification No.:	157-30564-00003
Operation Permit Renewal No.:	T157-27029-00003
Permit Reviewer:	John Haney

On January 10, 2012, the Office of Air Quality (OAQ) had a notice published in the Courier & Journal, Lafayette, Indiana, stating that Tate & Lyle Ingredients Americas LLC had applied to renew their operating permit; Tate & Lyle Ingredients Americas LLC had also applied for a source modification to construct and operate new emission units. The notice also stated that the OAQ proposed to issue a significant source modification and renewal operating permit for this operation and provided information on how the public could review the proposed permits and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not these permits should be issued as proposed.

Comments and Responses

On February 10, 2012, Tate & Lyle Ingredients Americas LLC submitted comments to IDEM, OAQ on the draft significant source modification and renewal operating permit.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The blower equipment tag number in Sections A.2(f) and D.6(f) should be revised to "33C65".

Response to Comment 1:

IDEM agrees with the recommended changes, since they are only correcting typographical errors. The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(f) Starch Reaction Operations, consisting of:

* * * * *

*(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower ~~3365~~ **33C65**, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.*

*(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower ~~3365~~ **33C65**, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.*

* * * * *

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Starch Reaction Operations, consisting of:

* * * * *

*(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower ~~3365~~ **33C65**, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.*

*(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower ~~3365~~ **33C65**, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 2:

The roll dryer mill feed collector 19F400 was actually installed in 2006 has a cyclone rather than a baghouse. Sections A.2(g) and D.7(g) should be revised to correct the information provided in previous permit applications. Please note that the descriptions in both sections should be identical.

Response to Comment 2:

IDEM agrees with the recommended changes, since they are only clarifying descriptive information. The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

(64) One (1) Roll Dryer Mill Feed Collector, identified as 19F400, constructed in 2006, with emissions controlled by product collector/~~baghouse~~ ***cyclone*** *19F400, and exhausting to the intake of Mill 19G401.*

* * * * *

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

(64) One (1) Roll Dryer Mill Feed Collector Baghouse, identified as 19F400, ~~permitted in 2007~~ ***constructed in 2006****, with emissions controlled by product collector/~~baghouse~~* ***cyclone*** *19F400, and exhausting to the intake of Mill 19G401.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 3:

The Roll Dryer System Mill baghouse 19G401 exhausts though its own 75 foot stack (S/V 366). Sections A.2(g) and D.7(g) should be revised to correct the stack information.

Response to Comment 3:

IDEM agrees with the recommended changes, since they are only clarifying descriptive information. The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by product collector/baghouse 19F402, and exhausting ~~via vent 366 to stack 404~~ ***to stack 366****.*

* * * * *

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by product collector/baghouse 19F402, and exhausting ~~via vent 366 to stack 404~~ ***to stack 366****.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 4:

The Utilities Lime Storage Silo (31V10) was recently placed permanently out-of-service due to the installation of a new reverse osmosis boiler water treatment system. Sections A.2(i) and D.9(i) should be revised.

Response to Comment 4:

IDEM agrees with the recommended changes, since the emission unit is no longer in service and will be decommissioned. Therefore, the Utilities Lime Storage Silo (31V10) has been removed from the permit. However, should the source choose to place the silo back into service, the silo will be subject to NSR review and shall require prior approval by IDEM, OAQ before such changes may take place.

The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(i) Boiler Support Facilities, consisting of:

* * * * *

~~(7) One (1) Utilities Lime Storage Silo, identified as 31V10, constructed in 1984, with emissions controlled by bin vent 31F18, and exhausting to stack 201.~~

* * * * *

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(i) Boiler Support Facilities, consisting of:

* * * * *

~~*(7) One (1) Utilities Lime Storage Silo, identified as 31V10, constructed in 1984, with emissions controlled by bin vent 31F18, and exhausting to stack 201.*~~

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 5:

Sections A.2(j) and D.10(j) should be revised to reflect Tate & Lyle's decision to discontinue the use of No.2 oil for its three gas boilers and its coal boiler.

Response to Comment 5:

IDEM agrees with the recommended changes, since the source no longer requires the ability to run its boilers on fuel oil. See Appendix A to the TSD Addendum for a detailed copy of the revisions to the calculations. Therefore, the No. 2 Fuel Oil Storage Tank (11V152) has been removed from the permit. However, should the source choose to place the tank back into service, the tank will be subject to NSR review and shall require prior approval by IDEM, OAQ before such changes may take place.

The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(j) Utility Area, consisting of:

(1) Three (3) natural gas ~~or fuel oil No. 2~~-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) coal-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004, with a heat input capacity of 231 MMBtu/hr, equipped with low-NO_x burners, using natural gas~~, fuel oil No. 2,~~ or coal and starch mixture as supplement fuels, with emissions controlled by baghouse 31F2, and exhausting to stack 202.

* * * * *

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities:

* * * * *

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

* * * * *

Building 11 --- Utilities and Chemical Unloading Area:
Sulfur Dioxide Storage Tank Three Relief Vents (S/V 170 - S/V 172), identified as 09V2.
Hot Oil Tank, identified as 11V199, with a capacity of 9,200 gallons.
~~*No. 2 Fuel Oil Storage Tank (S/V 316), identified as 11V152, constructed in 1965, with a capacity of 120,000 gallons.*~~

* * * * *

SECTION D.10 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(j) Utility Area, consisting of:

(1) Three (3) natural gas ~~or fuel oil No. 2~~-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) coal-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004, with a heat input capacity of 231 MMBtu/hr, equipped with low-NO_x burners, using natural gas~~, fuel oil No. 2,~~ or coal and starch mixture as supplement fuels, with emissions controlled by baghouse 31F2, and exhausting to stack 202.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 6:

The following insignificant activities in Section A.3(kk) should be removed because the emission units were never constructed:

Propylene Oxide Reactor (45VFF) Pressure Relief Vent (S/V 417), identified as 45VFF.
Propylene Oxide Reactor (45VFF) Vent Fan (S/V 417), identified as 45CFF.
Sodium Sulfate Liquid Storage Tank (S/V 427), identified as 45BVCC.
Dextrin Blender, identified as 33UAA.
Agglomerator #2 Feed Blender, identified as 51UAA.

Response to Comment 6:

IDEM agrees with the recommended changes. The permit has been revised as follows:

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities:

* * * * *

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

* * * * *

Building 45 --- Propylene Oxide Reactors:
* * * * *
~~*Propylene Oxide Reactor (45VFF) Pressure Relief Vent (S/V 417), identified as 45VFF.*~~
~~*Propylene Oxide Reactor (45VFF) Vent Fan (S/V 417), identified as 45CFF.*~~
PO Scrubber Sulfuric Acid Tank, identified as 45V212, with a capacity of 25,000 gallons.
Sodium Sulfate Liquid Storage Tank (S/V 65), identified as 45V252.
~~*Sodium Sulfate Liquid Storage Tank (S/V 427), identified as 45BVCC.*~~

* * * * *

~~*Starch Reaction Operations*~~
~~*Dextrin Blender, identified as 33UAA.*~~

Starch Drying and Handling Operations
Agglomerator Feed Blender, identified as 50U106.
~~*Agglomerator #2 Feed Blender, identified as 51UAA.*~~

Comment 7:

The following insignificant activities in Section A.3(kk) listed under "Syrup Refining Operations" should be deleted because they are duplicates that have been previously listed under "Buildings 18, 18B, and 18C --- Refinery Area": Jet Cooker System, identified as 18V67; Malto Evaporator, identified as 18X32; and the Syrup Pre-Evaporator, identified as 14X20. Please note that the tag number for the Malto Evaporator under the Refinery Area listing is incorrect and should be "18X32".

Response to Comment 7:

IDEM agrees with the recommended changes, since they are only removing duplicative information and correcting a typographical error. The permit has been revised as follows:

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities:

* * * * *

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

* * * * *

Buildings 18, 18B, and 18C --- Refinery Area:
* * * * *
Malto Evaporator (S/V 10), identified as ~~18X31~~ ***18X32****.*
* * * * *

Syrup Refining Operations
~~Jet Cooker System, identified as 18V67.~~
Reject Flash Enzyme Chamber, identified as 18V313.
~~Malto Evaporator, identified as 18X32.~~
Vacuum Flash Enzyme Chamber, identified as 18V513.
~~Syrup Pre-Evaporator, identified as 14X20.~~

* * * * *

Comment 8:

The phrase "by job title" should be inserted after the word "individual(s)" in Conditions B.10(a)(1) and B.10(b)(1) because identifying individuals by their given names is inappropriate in a permit that is in effect for five (5) years. Identifying individuals by their job title is a more appropriate way to reflect likely changes in personnel.

Response to Comment 8:

There is no need to revise the permit language because the phrase "identification of the individual(s)" does not implicitly require personnel names and could be facilitated by identifying individuals by their job title. No changes were made as a result of this comment.

Comment 9:

Tate & Lyle cannot certify compliance with Condition B.13(b) because it is the responsibility of IDEM to ensure that all applicable permit terms and conditions from prior permits are accurately reflected in this permit. Tate & Lyle believes this condition, as written, may require continuing review and certification of compliance with previous permits that should have been superseded by this permit. This requirement is confusing and contrary to the intent of the Part 70 permit process. Therefore, Condition B.13(b) should be revised as follows:

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]
* * * * *

(b) ~~Provided that all terms and conditions are accurately reflected in this combined permit, all~~ **All** previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

Response to Comment 9:

Both IDEM and the source have the responsibility to ensure that all applicable permit terms and conditions from prior permits are accurately reflected in this permit. The source is required to submit the citation and description of all applicable requirements in the application pursuant to 326 IAC 2-7-4(c)(4) as well as review the permit during the pre-public notice period, during the public notice period, and upon final issuance of the permit. No changes were made as a result of this comment.

Comment 10:

IDEM has revised language in the draft permits concerning acceptable operating ranges for parametric monitoring requirements (e.g., scrubber pH, flow rate, and baghouse pressure drop). For example, the scrubber recirculation flow rate for the Propylene Oxide Scrubber (45F212) in Section D.5 of the existing Part 70 permit states:

> "The minimum flow rate for scrubber 45F212 is 390 gallons per minute <u>or</u> a minimum flow rate established during the latest stack test".

The recirculation flow rate condition in the draft permit states:

> "When, for any one reading, the 1-hr average flow rate reading is below the minimum flow rate of 390 gallons per minute <u>until</u> a minimum rate is established during the latest stack test, the Permittee shall take reasonable response".

Tate & Lyle is concerned that the change from "<u>or</u>" to "<u>until</u>" could dramatically alter the meaning of the condition. One interpretation of the draft revised condition is that a new minimum rate is established following each required stack test (typically every 5 years); although, it isn't entirely clear whether the Permittee or IDEM would establish that minimum rate. The Permittee would desire to perform a stack test at a nominal recirculation rate that was either above the initial flow rate or a rate established in a previous stack test with an ample margin of safety that demonstrated compliance with the operating range of the monitoring condition. Thus, the effect of the draft permit condition would result in an ever tightening operating range for the scrubber even though the Permittee would still likely be able to demonstrate compliance with its emission limit at a lower recirculation rate. In the case of baghouse pressure drop, simulating a minimum pressure drop condition would be very difficult.

Previously, Tate & Lyle assumed the "<u>or</u>" conditional was provided in parametric monitoring conditions to provide the Permittee with the possibility of using a lower minimum flow rate than the rate stated in the condition if the Permittee could still demonstrate compliance during a stack test. Sections of the draft permit that include this modified language change from "or" to "until" are listed below:

- Condition D.1.6(b);
- Conditions D.2.4(a), (b), (c);
- Conditions D.3.10(a), (b), (c);
- Conditions D.5.11(a), (b);
- Conditions D.7.9(a), (b), (c), (d);
- Condition D.7.10(c);
- Condition D.8.8(c); and
- Conditions D.11.5(a), (b).

Tate & Lyle also proposes a pressure drop monitoring range of 0.5" to 7.5" w.g. consistent with normal readings from several baghouses that are currently equipped with continuous pressure

drop monitors. This is a span of 7.0" w.g. which is the same span proposed in the draft Part 70 permit (1.0-8.0" w.g.). Tate & Lyle believes that, during normal steady-state operation, a pressure drop range of 0.5" to 7.5" w.g. will assure that the baghouse is operating at its greatest efficiency. A pressure drop of less than 0.5" w.g. indicates the filter element cleaning cycle is too short and the facility is simply wasting electricity in the form of compressed air used for cleaning. Pressure drops in excess of 7.5" w.g. indicates the facility is wasting electricity in terms of baghouse fan motors and may be indicative of plugging conditions in the baghouse.

Most of the parametric monitoring conditions also include the following phrase: “The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.” Tate & Lyle requests this exception be expressed in all parametric monitoring conditions regardless of whether the monitoring frequency is continuous or only once per day. At this time, the phrase is not included in Sections D.1.6(b), D.2.4(a), D.2.4(c), D.3.10(a)(1), D.3.12, D.5.11(a), D.7.10(c), and D.8.8(c).

Comment 11:

Condition D.2.4(a) should be revised to correct the following typographical error.

D.2.4 Scrubber Parametric Monitoring [40 CFR 64]

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor the scrubber recirculation rate from scrubber 15F401 at least ~~one~~ **once** per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

* * * * *

Response to Comments 10 and 11:

First, IDEM agrees to modify the parametric monitoring language in order to clarify the operating parameter ranges. The intent of revising the language is to allow the upper or lower value of the range to be expanded. Consequently, as a result of testing for a parametric monitor, the range will not constrict.

Second, IDEM is clarifying that the Permittee, during a stack test, is responsible for setting the maximum or minimum value at a level that demonstrates compliance. Again, it is not necessary to constrict the value from the level established at the last demonstration. The Permittee is allowed to test at the same values. The Permittee may even test using lower minimum value than the value stated in a given condition as long as the Permittee can still demonstrate compliance during the stack test.

Third, IDEM agrees to adjust the pressure drop ranges of the three baghouses as requested since the span of 7.0" w.g. is the same span proposed in the draft Part 70 permit.

Fourth, the "loss of continuous monitoring data" exemption should only be expressed for a continuous monitoring system because a continuous monitor system cannot perform continuously while it is being calibrated. For instances when the source is required to record a parameter once per day, the instrument can be calibrated and the parameter recorded later that same day and still meet the requirement of recording the parameter once per day, even for a 1-hour average timeframe. Therefore, the "loss of continuous monitoring data" language has been removed from Conditions D.3.10(a)(2), D.3.10(b), D.3.10(c), D.5.11(b), D.7.9(a), D.7.9(b), D.7.9(c), D.7.9(d), and D.11.5(b).

Finally, IDEM agrees with the recommended change in Condition D.2.4, since it only corrects a typographical error.

The permit has been revised as follows:

D.1.6 Baghouse Parametric Monitoring [40 CFR 64]

* * * * *

*(b) When, for any one reading, the pressure drop across the baghouse is outside of the normal range ~~of 1.0 and 8.0 inches of water until a range is established during the latest stack test~~, the Permittee shall take **a** reasonable response. **The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.** Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A **pressure** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

D.2.4 Scrubber Parametric Monitoring [40 CFR 64]

*(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor **and record** the scrubber recirculation rate from scrubber 15F401 at least ~~one~~ **once** per day when any of the emission units being aspirated to scrubber 15F401 are in operation.*

~~(1) Prior to a valid stack test when, for any one reading, the 1-hr average flow rate reading of the scrubber recirculation rate is below the minimum flow rate of 400 gallons per minute, the Permittee shall take reasonable response step(s).~~

~~(2) After a valid stack test when, for any one reading, the 1-hr average flow rate reading of the scrubber recirculation rate is below the minimum flow rate established in the latest valid stack test, the Permittee shall take reasonable response step(s).~~

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **flow rate** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

(b) Pursuant to 40 CFR 64 (CAM), within ninety (90) days from the issuance date of Significant Permit Modification 157-30882-00003, the Permittee shall monitor ***and record*** *the scrubber make-up water flow* ***from scrubber 15F401*** *continuously when any of the emission units being aspirated to scrubber 15F401 are in operation.*

~~*(1) Prior to a valid stack test when, for any one reading, the 1-hr average flow rate reading of the scrubber make-up water flow is below the minimum flow rate of five (5) gallons per minute, the Permittee shall take reasonable response step(s).*~~

~~*(2) After a valid stack test when, for any one reading, the 1-hr average flow rate reading of the scrubber make-up water flow is below the minimum flow rate established in the latest valid stack test, the Permittee shall take reasonable response step(s).*~~

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.2.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A* ***flow rate*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

(c) The Permittee shall monitor ***and record*** *the pH ~~of the scrubbing liquor from~~* ***across*** *scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.*

~~*(1) Prior to a valid stack test when, for any one reading, the pH reading is outside of the normal range of 7 to 9, the Permittee shall take reasonable response step(s).*~~

~~*(2) After a valid stack test when, for any one reading, the pH reading is outside of the normal range established in the latest valid stack test, the Permittee shall take reasonable response step(s).*~~

(1) When, for any one reading, the pH across the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pH between 7 and 9 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.

(2) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **pH** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

D.3.10 Scrubber Parametric Monitoring

*(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor **and record** the pH ~~of the scrubbing liquor and the scrubber's recirculation rate from~~ **across** scrubber 21F13 at least once per day when any of the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.*

*(1) When, for any one reading, the pH ~~reading~~ **across the scrubber** is outside ~~of~~ the normal range ~~of 5 to 8 until a range is established during the latest stack test~~, the Permittee shall take **a** reasonable response.* ***The normal range for this unit is a pH between 7 and 9 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.***

(2) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **pH** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

~~*(2) When, for any one reading, the 1-hr average flow rate reading is below the minimum flow rate of 400 gallons per minute until a minimum rate is established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the normal range is not a deviation from this permit. The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*~~

(b) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor and record the recirculation rate from scrubber 21F13 at least once per day during normal operations the emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 400 gallons per minute. If the flow rate falls below 400 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed

during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

*~~(b)~~**(c)*** *The Permittee shall monitor **and record** the ~~scrubber's~~ recirculation rate from scrubber 21F311 at least once per day when any of the emission units 21F304, 21D8, and 21V125 are in operation. ~~When, for any one reading, the 1-hr average flow rate reading is below the minimum flow rate as specified by the manufacturer until a minimum flow rate is established during the latest stack test, the Permittee shall take reasonable response.~~*

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. *~~When, for any one reading,~~ **If** the 1-hr average flow rate ~~reading is~~ **falls** below the minimum flow rate as specified by the manufacturer ~~until a minimum flow rate is established during the latest stack test~~, the Permittee shall take **a** reasonable response.*

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

*(4) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **flow rate** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

*~~(c)~~**(d)*** *The Permittee shall monitor **and record** the ~~scrubber's~~ recirculation rate from scrubber 21F312 at least once per day when any of the emission units 21G351, 21G352, and 21U314 are in operation.*

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum flow rate as specified by the manufacturer. *~~When, for any one reading,~~ **If** the 1-hr average flow rate ~~reading is~~ **falls** below the minimum flow rate as specified by the manufacturer ~~until a minimum flow rate is established during the latest stack test~~, the Permittee shall take **a** reasonable response.*

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.3.1(h).

(3) ***On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.***

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A* ***flow rate*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

*~~(d)~~***(e)*** *The instruments used for determining the pH and flow rate shall comply with Section C - Instrument Specifications of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used.*

D.3.12 Thermal Oxidizer Temperature

* * * * *

(b) *~~From the date of issuance of this permit until the approved stack test results are available, the~~* ***The*** *Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1400°F.* ***If the 3-hour average temperature falls below 1,400°F, the*** *~~The~~ Permittee shall take ~~appropriate~~* ***a reasonable*** *response ~~steps whenever the three (3) hour average temperature of the thermal oxidizers is below 1400°F. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A three (3) hour average temperature that is below 1400°F is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit~~.*

*~~(b)~~***(c)*** *The Permittee shall determine the 3-hour average temperature from the ~~most recent~~* ***latest*** *valid stack test that demonstrates compliance with* ***the*** *limits in Condition D.3.1(d).*

*~~(c)~~***(d)*** *On and after the date the ~~approved~~ stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the* ***latest*** *compliant stack test.* ***If the 3-hour average temperature falls below the level observed during the most recent compliant stack test, the Permittee shall take a reasonable response.***

(e) ***Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A 3-hr average that is below the established temperature is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.***

D.5.11 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor ***and record*** *the pH ~~of the scrubbing liquor from~~* ***across*** *scrubber 45F212 at least once per day when any of the emission units being aspirated to scrubber 45F212 are in operation.*

(1) *When, for any one reading, the pH ~~reading~~* ***across the scrubber*** *is outside of the normal range ~~of 0.5 to 4 until a range is established during the latest stack test~~, the Permittee shall take* ***a*** *reasonable response.* ***The normal range for this unit is a pH between 0.5 and 4 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pH reading that is outside the above mentioned range is not a deviation from this permit.***

(2) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A* ***pH*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

(b) The Permittee shall monitor ***and record*** *the ~~scrubber's~~ recirculation rate from scrubber 45F212 continuously when any of the emission units being aspirated to scrubber 45F212 are in operation.*

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 390 gallons per minute. *~~When, for any one reading,~~* ***If*** *the 1-hr average flow rate ~~reading is~~* ***falls*** *below ~~the minimum flow rate of~~ 390 gallons per minute ~~until a minimum flow rate is established during the latest stack test~~, the Permittee shall take* ***a*** *reasonable response.*

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.5.1, D.5.4, and D.5.5.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A* ***flow rate*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

D.7.9 Scrubber Parametric Monitoring [40 CFR 64]

(a) ~~A continuous monitoring system shall be operated at all times scrubber 40F26 is in operation.~~ The ~~monitoring system~~ ***Permittee*** *shall ~~continuously measure~~* ***monitor*** *and record the ~~scrubber's~~ recirculation rate from scrubber 40F26* ***continuously when*** *~~controlling emissions from~~ emission unit 40D20* ***is in operation****.*

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 300 gallons per minute. *~~When, for any one reading,~~* ***If*** *the 1-hr average flow rate*

*~~reading is~~ **falls** below ~~the minimum flow rate of~~ 300 gallons per minute ~~until a minimum flow rate is established during the latest stack test~~, the Permittee shall take **a** reasonable response.*

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.1(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **flow rate** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

*(b) ~~A continuous monitoring system shall be operated at all times scrubber 43F80 is in operation.~~ The ~~monitoring system~~ **Permittee** shall ~~continuously measure~~ **monitor** and record the ~~scrubber's~~ recirculation rate from scrubber 43F80 **continuously when** ~~controlling emissions from~~ emission unit 43D71 **is in operation**.*

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above 300 gallons per minute. *~~When, for any one reading,~~ **If** the 1-hr average flow rate ~~reading is~~ **falls** below ~~the minimum flow rate of~~ 300 gallons per minute ~~until a minimum flow rate is established during the latest stack test~~, the Permittee shall take **a** reasonable response.*

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(c).

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A **flow rate** reading that is outside the ~~normal~~ **above mentioned** range is not a deviation from this permit. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.*

*(c) The Permittee shall monitor **and record** the ~~scrubbers'~~ recirculation rate **from scrubber 40F3** at least once per day ~~from scrubber 40F3 controlling emissions from~~ **when** emission*

unit 40D1 ***is in operation****.* ~~*When, for any one reading, the 1-hr average flow rate reading is below the minimum rate of 70 gallons per minute until a minimum flow rate is established during the latest stack test, the Permittee shall take reasonable response.*~~

(1) ***From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.***

(2) ***The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.7.2(a).***

(3) ***On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.***

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the* ~~*reasonable*~~ *response steps required by this condition. A* ***flow rate*** *reading that is outside the* ~~*normal*~~ ***above mentioned*** *range is not a deviation from this permit.* ~~*The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.*~~ *Failure to take response steps shall be considered a deviation from this permit.*

(d) *The Permittee shall monitor* ***and record*** *the* ~~*scrubbers'*~~ *recirculation rate* ~~*at least once per day*~~ *from scrubbers 16F26, 17F78, 16F27, and 17F79* ***at least once per day when*** ~~*controlling emissions from*~~ *emission units 16D4 and 16D5* ***are in operation****.* ~~*When, for any one reading, the 1-hr average flow rate reading is below the minimum flow rate of five gallons per minute until a minimum flow rate is established during the latest stack test, the Permittee shall take reasonable response.*~~

(1) ***From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of five (5) gallons per minute. If the flow rate falls below five (5) gallons per minute, the Permittee shall take a reasonable response.***

(2) ***The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.7.3(f) and D.7.3(g).***

(3) ***On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.***

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the* ~~*reasonable*~~ *response steps required by this condition. A* ***flow rate*** *reading that is outside the* ~~*normal*~~ ***above mentioned*** *range is not a deviation from this permit.* ~~*The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not*~~

~~constitute a deviation from this permit.~~ Failure to take response steps shall be considered a deviation from this permit.

* * * * *

D.7.10 Baghouse Parametric Monitoring

* * * * *

(c) ***When*** *~~If~~, for any one reading, the pressure drop across the baghouse is outside of the normal range ~~of 1.0 and 8.0 inches of water until a range is established during the latest stack test~~, the Permittee shall take* ***a*** *reasonable response.* ***The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.*** *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A* ***pressure*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

D.8.8 Baghouse Parametric Monitoring

* * * * *

*~~(c)~~****(b)*** ***When*** *~~If~~, for any one reading, the pressure drop across the baghouse is outside of the normal range ~~of 1.0 and 8.0 inches of water until a range is established during the latest stack test~~, the Permittee shall take* ***a*** *reasonable response.* ***The normal range for this unit is a pressure drop of 0.5 and 7.5 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.*** *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A* ***pressure*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

D.11.5 Scrubber Parametric Monitoring [40 CFR 64]

(a) The Permittee shall monitor ***and record*** *the ~~scrubber~~ pH ~~of the scrubbing liquor~~* ***across scrubber 34V11*** *at least once per day ~~from scrubber 34V11~~ when digester 34V10 is in operation.*

(1) *When, for any one reading, the pH ~~reading~~* ***across the scrubber*** *is outside ~~of~~ the normal range ~~of 9 to 11.5 until a range is established during the latest stack test~~, the Permittee shall take* ***a*** *reasonable response.* ***The normal range for this unit is a pH between 9 and 11.5 unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pressure reading that is outside the above mentioned range is not a deviation from this permit.***

(2) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the ~~reasonable~~ response steps required by this condition. A* ***pH*** *reading that is outside the ~~normal~~* ***above mentioned*** *range is not*

a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) ~~*A continuous monitoring system shall be operated at all times scrubber 34V11 is in operation.*~~ *The* ~~*monitoring system*~~ ***Permittee*** *shall* ~~*continuously measure*~~ ***monitor*** *and record the* ~~*scrubber*~~ *recirculation rate from scrubber 34V11* ***continuously when*** ~~*controlling emissions from*~~ *emission unit 34V10* ***is in operation****.* ~~*When, for any one reading, the 1-hr average flow rate reading is below the minimum flow rate of 70 gallons per minute until a minimum flow rate is established during the latest stack test, the Permittee shall take reasonable response.*~~

(1) From the date of startup until the stack test results are available, the Permittee shall maintain the flow rate at or above the minimum of 70 gallons per minute. If the flow rate falls below 70 gallons per minute, the Permittee shall take a reasonable response.

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Condition D.11.1.

(3) On and after the date the stack test results are available, the Permittee shall maintain a flow rate at or above the minimum rate as observed during the latest compliant stack test. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(4) *Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the* ~~*reasonable*~~ *response steps required by this condition. A* ***flow rate*** *reading that is outside the* ~~*normal*~~ ***above mentioned*** *range is not a deviation from this permit.* ~~*The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.*~~ *Failure to take response steps shall be considered a deviation from this permit.*

* * * * *

Comment 12:

Baghouse parametric monitoring consisting of recording pressure drop across baghouses is proposed under Conditions D.1.6, D.7.10, and D.8.8 of the draft permit. Instead of monitoring baghouse pressure drop once per day as indicated, Tate & Lyle is proposing to monitor affected baghouse filters continuously for pressure drop. It should be noted that this monitoring method is meant to act in conjunction with daily visible emission notations. It does not replace these notations and is a much more technologically advanced pressure drop monitoring program than is typically found in other Part 70 permits in Indiana.

After careful consideration, Tate & Lyle has determined an appropriate way to program our process control system and data historian to obtain meaningful information upon which to initiate corrective actions to pressure drop excursions. The goal of this programming would be to obtain data representative of steady-state operations of the filters and avoid false alarms associated with startup and shutdown conditions and periods following the installation of new filter elements. The proposed averaging period is a 20-minute rolling average comprised of 20 one-minute readings. Readings would only be stored when the process is in operation. Both the baghouse fan has to be on and product has to be on the system for the process to be considered in operation. If either of these conditions is not met, the process is considered to be down (not in operation). If the

process is down for more than 60 minutes, the 20-minute rolling average will be reinitiated from the time the process is restarted. If the process is down for less than 60 minutes, the 20-minute rolling average would continue but the average would exclude those 1 minute readings coinciding with downtime of the process.

The following narrative provides actions that will be taken either automatically or by our operators in response to continuous pressure drop readings for affected baghouses:

- Baghouse "Pulse-on-Demand" Pulsing: Pulsing is automatically discontinued when the real time (not 20-minute average) pressure drop reading is less than 0.5" w.g. for more than approximately five minutes or if the process is down. Pulsing is restarted when the pressure drop reading is greater than 0.7" w.g. for approximately 30 seconds and the process is up. Based on operating experience gained, these targets and timeframes may be adjusted. This information is provided for descriptive purposes of the automated "Pulse-on-Demand" program and is not intended to become part of any permit condition.

- Warning Condition: If the 20-minute rolling average remains continuously outside the pressure drop monitoring range of 0.5" to 7.5" w.g. for more than 30 minutes of total operating time, operators will receive an early alarm that will allow them to correct the situation without requiring a response in accordance with Section C of the Part 70 permit. This early warning will allow the operators to informally respond to the event or nuisance alarms and troubleshoot the system without requiring them to take more significant actions including shut down of the process and bagfilter. Again, this early warning condition is not intended to be used to develop conditions for the Part 70 permit. It should be noted that if visible emissions are observed at any time during the once per day observations or at any other time, it is the Sagamore plant's policy to immediately shutdown the emission unit regardless of pressure drop readings.

- Excursion Alarm: If the 20-minute rolling average remains continuously outside the pressure drop monitoring range of 0.5" to 7.5" w.g. for more than 60 minutes of total operating time, it will be considered an excursion of permit conditions that requires a response in accordance with Section C of the Part 70 permit. If the process is down for any reason for less than 60 minutes, pressure drop data is not recorded during that period of downtime and the alarm timer is suspended until the process returns to a full operating condition (baghouse fan is on and product is on the system). Once the process returns to a full operating condition, the timer resumes the 60-minute count. The alarm timer only resets to zero minutes if the process is down for more than 60 consecutive minutes.

Tate & Lyle also requests that loss of continuous monitoring data or malfunction of pressure drop monitoring devices would not constitute a deviation from permit conditions. Much like the provisions in Section C for response to excursion of monitoring parameters, Tate & Lyle would like to request similar language for collection of monitoring data. In other words, if for any reason, we are not able to collect and record the data or we determine the pressure drop monitoring devices are malfunctioning, the lack of reportable data would not be considered a deviation of permit conditions. Rather, a deviation would occur if reasonable actions were not taken and documented for returning the continuous monitoring system to normal operation. It is unlikely collection of baghouse pressure drop monitoring data would be interrupted for more than a day, so once per day readings could still be obtained.

Tate & Lyle continues to believe that visible emission evaluations are the most reliable method to determine excess particulate emissions from baghouse filter leakage in our industry. Visual observation can quickly ascertain if a baghouse is leaking from a torn, damaged, or improperly installed bag or cartridge. A small hole or number of holes in a baghouse filter element will not likely alter pressure drop because the size of the holes are negligible in comparison to total cloth

area. However, these holes could easily result in visible emissions being detectable during daily visual evaluations. Conversely, it is very possible a baghouse could be operating outside a randomly specified pressure drop range and still be in full compliance with the allowable emission limit and have no visible emissions. If pressure drop readings are to be required, Tate & Lyle believes the approach discussed above will provide useful data upon which our operators can base decisions on whether the baghouse is operating properly. Key to this approach is recognition that an allowable baghouse pressure drop operating range of 0.5”-7.5” w.g. is needed and that compliance with this operating range would be demonstrated using a rolling average of 60 valid one-minute readings.

Response to Comment 12:

The "loss of continuous monitoring data" exemption should only be expressed for a continuous monitoring system because a continuous monitor system cannot perform continuously while it is being calibrated; see Response to Comments 10 and 11. However, if the above proposed monitoring meets the requirements of Conditions D.1.5, D.7.8, and D.8.7 (Visible Emission Notations) as well as Conditions D.1.6, D.7.10, and D.8.8 (Baghouse Parametric Monitoring), then the source may use the monitoring and note this in the daily record. No change was made as a result of this comment.

Comment 13:

Condition D.2.1(c) should be revised for clarification as follows:

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

* * * * *

(c) For these units, the BACT for VOC is the use of an absorption system using wet scrubber 15F401, and:

(1) The scrubber shall have a minimum VOC control efficiency of 25%; and

*(2) The scrubber **outlet VOC emission rate** shall not exceed 27 lbs/hr.*

Response to Comment 13:

IDEM agrees with the recommended change, since it only clarifies the existing conditions and does not modify the original BACT determination. The permit has been revised as requested above.

Comment 14:

Condition D.2.5 should be revised to recognize that scrubber 15F410 aspirates process sulfur dioxide emissions from numerous tanks and processing equipment in the wet milling and feedhouse areas. Shutting down the feed to the process does not eliminate the emissions from this equipment and aspiration of this equipment is necessary to control sulfur dioxide exposure to employees. It would take far longer to empty all of the associated process tanks and equipment than to repair scrubber 15F410 since material must be pumped from one tank to the next in this continuous wet milling process. Tate & Lyle recommends that the scrubber itself be shut down immediately upon failure. Please revise as follows:

D.2.5 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 15F401 has been observed:

The ~~feed to the process~~ **scrubber** shall be shut down **and actions taken** immediately **to have the scrubber** ~~until the failed units have been~~ repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Response to Comment 14:

The requested language suggests the source could maintain feeding new material to the process while the scrubber was shut down for repair, allowing the emissions units to continue operating and processing material. This would allow the source to continue generating uncontrolled emissions. No changes were made as a result of this comment.

Comment 15:

Condition D.3.1(a) should be revised to recognize that the Fiber Flash Dyer (21D501) is an indirectly heated flash dryer and does not emit NO_x; the combustion unit for the flash dryer is the Fiber Flash Dryer Furnace (21B501). Condition D.3.1(f) should also be revised to indicate the burner for the Gluten Flash Dryer (48D101) is one of the units for which BACT for NO_x is the use of low-NO_x burners.

In addition, insignificant activities venting to the inlet of the feed cooler scrubber fan (21C311) or Feed Loadout Hopper (21V125) should be added in the same way insignificant activities controlled by wet mill scrubber 15F401 were listed in Section D.2.1(a)(4).

Comment 16:

Condition D.3.1(h) should be revised to include insignificant activities venting to the hammermill scrubber 21F312, added in the same way insignificant activities controlled by wet mill scrubber 15F401 were listed in Section D.2.1(a)(4).

Comment 17:

Condition D.3.6 should be revised to correct a typographical error as well as to remove emission units that were never constructed.

Response to Comments 15, 16, and 17:

IDEM agrees with the recommended changes with regards to the Fiber Flash Dyer (21D501) and the Gluten Flash Dryer (48D101). First, the Fiber Flash Dryer (21D501) does not generate NO_x emissions, as indicated in the Appendix A to the Technical Support Document (TSD); it also was not part of the original BACT determination for SSM No. 157-18832-00003 nor the subsequent BACT determination for PSD/SSM No. 157-22808-00003. Second, a review of the original BACT determination for SSM No. 157-18832-00003 shows that BACT for the Gluten Flash Dryer (originally permitted as emission unit 48DAA) is the use of low-NO_x burners; the use of low-NO_x burners was established to be BACT in the subsequent BACT determination for PSD/SSM No. 157-22808-00003.

However, the addition of the insignificant activities in Conditions D.2.1(a), D.3.1(a), and D.3.1(h) will modify the original BACT determinations. It is not the intent of the source to re-open either of these BACT determinations. Therefore, these emission units and activities will not be listed as part of the BACT determinations, but instead additional operational requirements will be added to the permit indicating that the appropriate control devices be operated when the corresponding activities are in operation. This will clarify that the original BACT determination for SSM No. 157-18832-00003 and the subsequent BACT determination for PSD/SSM No. 157-22808-00003 indicate that the use of alkaline scrubber 15F401 encompasses only the wet milling operations in addition to the Germ Cooler Rotary Airlock Valves (21D3).

The permit has been revised as follows:

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

(1) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210; ***and***

*(2) Feed/Meal/Germ Production Operations, including 21D3~~;~~**.***

~~*(3) Syrup Refining Operations, including 18V413; and*~~

~~*(4) Insignificant Activities, including 14V600, 14P510, 15V33, 21U403, and 14X20.*~~

* * * * *

D.2.2 Sulfur Dioxide (SO_2) and Volatile Organic Compounds (VOC) Control

In order to comply with Condition D.2.1, scrubber 15F401 used for SO_2 and VOC control shall be in operation and control SO_2 and VOC emissions at all times when ~~an~~ ***any of the following*** *emission ~~unit~~* ***units*** *that ~~is being~~* ***are*** *aspirated to the scrubber ~~is~~* ***are*** *in operation~~.~~**:***

(a) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210; and

(b) Feed/Meal/Germ Production Operations, including 21D3;

(c) Syrup Refining Operations, including 18V413; and

(d) Insignificant Activities, including 14V600, 14P510, 15V33, 21U403, and 14X20.

* * * * *

D.3.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM, PM_{10}, SO_2, VOC, and NO_x using the BACT:

(1) RST Feed Dryer (21D301) – BACT for PM, PM_{10}, SO_2, and VOC;

(2) Rotary Steam Tube Germ Dryer (21D401) – BACT for PM, PM_{10}, SO_2, and VOC;

(3) Gluten Flash Dryer (48D101) – BACT for PM, PM_{10}, SO_2, VOC, and NO_x;

*(4) Fiber Flash Dryer (21D501) – BACT for PM, PM_{10}, SO_2, **and** VOC~~, and NO_x~~;*

(5) Fiber Flash Dryer Furnace (21B501) – BACT for PM, PM_{10}, VOC, and NO_x;

(6) Feed Cooler (21D8) – BACT for PM and PM_{10};

(7) Corn Cleanings Receiver (21F304) – BACT for PM and PM_{10};

(8) Feed Loadout Hopper (21V125) – BACT for PM and PM_{10}; and

(9) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT for PM, PM_{10}, VOC, and NO_x.

* * * * *

*(f) For these units, including the Fiber Flash Dryer Furnace 21B501**, Gluten Flash Dryer 48D101,** and the regenerative thermal oxidizers 48F201 and 48F202, except the RST Feed Dryer 21D301, Rotary Steam Tube Germ Dryer 21D401, **Fiber Flash Dryer 21D501,** Feed Cooler 21D8, Corn Cleanings Receiver 21F304 and Feed Loadout Hopper 21V125, the BACT for NO_x is the use of low-NO_x burners rated at 0.06 lb/MMBtu or less, and the total NO_x emissions from these burners exhausting to stack S/V 17 shall not exceed 6 lbs/hr.*

* * * * *

D.3.5 Particulate, Volatile Organic Compounds (VOC), and Sulfur Dioxide (SO_2) Control

*In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), scrubber 21F13 and thermal oxidizers 48F201and 48F202 shall be in operation and control particulate, VOC, and SO_2 emissions from emission units 21D301, 21D401, 48D101, and 21D501 **and insignificant activities 21U501 and 21J47** at all times when the material feed system to any emission unit that it controls is in operation.*

D.3.6 Particulate Control

*(a) In order to comply with Condition D.3.1(b), scrubber 21F311 shall be in operation and control particulate emissions from emission ~~unit~~ **units** 21F304, 21D8, and 21V125 **and insignificant activities 21U315 and 21U201** and exhaust as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501*

and/or Thermal Oxidation Units 48F201 and 48F202 at all times when the material feed system to any emission unit that it controls is in operation.

(b) In order to comply with Conditions D.3.1(g) and D.3.3, bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, ***and*** *8F54~~, and 12FCC~~ for particulate control shall be in operation and control particulate emissions from emission units 8V121, 8V122, 8V123, 8V124, 8V62, 8U39, 8U41, 8V63, 8V53,* ***and*** *8V54~~, 12VCC, and 12UCC~~ at all times when any emission unit that it controls is in operation.*

(c) In order to comply with Condition D.3.1(h), scrubber 21F312 for particulate control shall be in operation and control particulate emissions from emission units 21G351, 21G352, and 21U314 ***and insignificant activity 21U313*** *at all times when any emission unit that it controls is in operation.*

* * * * *

Comment 18:

Conditions D.3.7, D.4.3, D.5.8, D.6.4, D.7.6, D.8.6, and D.9.5 should be revised so that they are identical to Condition D.1.3. Tate & Lyle believes these changes better clarify steps that need to be taken for emission units controlling continuous processes compared to those controlling batch operations.

Response to Comment 18:

IDEM agrees that all of these conditions should be identical. The permit has been revised as follows:

D.3.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, ***the feed to the process*** *~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the ***emission unit*** *~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces****, or triboflows****.*

D.4.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, ***the feed to the process*** *~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

*(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the **emission unit** ~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces**, or triboflows**.*

D.5.8 Broken or Failed Bag Detection – Single Compartment Baghouse

*(a) For a single compartment baghouse controlling emissions from a process operated continuously, **the feed to the process** ~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

*(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the **emission unit** ~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces**, or triboflows**.*

D.6.4 Broken or Failed Bag Detection – Single Compartment Baghouse

*(a) For a single compartment baghouse controlling emissions from a process operated continuously, **the feed to the process** ~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

*(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the **emission unit** ~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces**, or triboflows**.*

D.7.6 Broken or Failed Bag Detection – Single Compartment Baghouse

*(a) For a single compartment baghouse controlling emissions from a process operated continuously, **the feed to the process** ~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations*

may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the ***emission unit*** *~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces****, or triboflows****.*

D.8.5 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, ***the feed to the process*** *~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the ***emission unit*** *~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces****, or triboflows****.*

D.9.5 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, ***the feed to the process*** *~~a failed unit and the associated process~~ shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or*

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the ***emission unit*** *~~line~~. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).*

*Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, ~~or~~ leaks, ~~or~~ dust traces****, or triboflows****.*

Comment 19:

Condition D.3.8 requires compliance testing for scrubbers 21F13 and 21F311. Scrubber 21F311 controls particulate emissions from the feed cooler 21D8, which exhausts as combustion air into the furnace of the gluten flash dryer 48D101 and/or the fiber flash dryer furnace 21B501, and/or thermal oxidation units 48F201 and 48F202. There are no emission limits in Section D.3.1 that apply only to the exhaust of scrubber 21F311, so requiring a compliance test for the feed cooler scrubber 21F311 is meaningless. Tate & Lyle requests Section D.3.8 be revised as follows:

D.3.8 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), the Permittee shall perform PM, PM_{10}, opacity, VOC, and SO_2 testing of scrubber~~s~~ 21F13 ~~and 21F311~~ and thermal oxidizers 48F201 and 48F202 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

*(b) In order to demonstrate compliance with Condition D.3.1(f), the Permittee shall perform NO_x testing of ~~dryers~~ **emission units** 48D101, 48F201, 48F202, and 21B501 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.*

Response to Comment 19:

IDEM agrees with the recommended changes, since the exhaust from scrubber 21F311 is routed as combustion air for other emission units which have additional control devices and does not vent directly to the atmosphere. The permit has been revised as requested above.

Comment 20:

Condition D.4.4(a) should be revised to clarify that filter aid is transferred from the filter aid silo 9V31 to the precoat makeup tank via a pneumatic conveyor. Particulate emissions from this transfer process are controlled by baghouse 18F118, which exhausts through Stack 129. This pneumatic transfer process to the precoat tank is not a rail or truck unloading operation.

Response to Comment 20:

IDEM agrees with the recommended changes, since they clarify that the pneumatic transfer process is not a rail or truck unloading operation. The permit has been revised as follows:

D.4.4 Visible Emissions Notations

*(a) Visible emission notations of the stacks' 123, 124, ~~129,~~ and 149 exhausts shall be performed once per day **during normal daylight operations** when rail or truck unloading operations occur. A trained employee shall record whether emissions are normal or abnormal.*

(b) Visible emission notations of the stack 129 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

*~~(b)~~**(c)*** *For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.*

*~~(c)~~**(d)*** *In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.*

*~~(d)~~**(e)*** *A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.*

*~~(e)~~**(f)*** *If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.*

Comment 21:

Condition D.6.2 includes PM emission limits for emission units that are identical to PM limits provided in Section D.6.1 (Avoidance Limits for PSD). Tag numbers referenced in Section D.6.2 emission limits are for particulate control equipment whereas the limits in Section D.6.1 are for the emission units themselves. Tate & Lyle believes this duplication of emission limits is unnecessary and potentially confusing to the Sagamore facility. The development of PSD avoidance limits would inherently require a review to ensure the limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission limits based on maximum process weight rate for these facilities. However, if IDEM believes it necessary to explicitly state that fact, it could repeat the paragraph included at the end of Section D.6.2 with identical language at the end of Section D.6.1.

Response to Comment 21:

IDEM agrees with the recommended changes, since they only clarify and simplify the existing conditions. The permit has been revised as follows:

D.6.1 Avoidance Limits for PSD [326 IAC 2-2] ***[326 IAC 6-3-2]***

(a) *In order to render the requirements of 326 IAC 2-2 not applicable, PM and PM_{10} emissions from emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed the emissions limits listed in the table below:*

* * * * *

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45.

(b) ***Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:***

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ ***where E = rate of emission in pounds per hour and P = process weight rate in tons per hour***

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ ***where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour***

The PSD avoidance limits for PM in Condition D.6.1(a) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.6.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

*The particulate emission rates from facilities ~~33V1, 33V2, 33V5, 33R1, 33R2,~~ 50V61~~,~~ **and** 50V62~~, 50F45, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, and 50G2~~ shall be limited as follows:*

~~*(a) The particulate emission rates from bin vents 33F1 and 33F2 shall not exceed 0.29 lb/hr, each.*~~

~~*(b) The particulate emission rate from bin vent 33F5 shall not exceed 0.03 lb/hr.*~~

~~*(c) The particulate emission rates from baghouses 33F101 and 33F102 shall not exceed 0.08 lb/hr, combined.*~~

~~*(d) The particulate emission rates from baghouses 33F201 and 33F202 shall not exceed 0.08 lb/hr, combined.*~~

~~(e)~~ The particulate emission rates from bin vents 50F161 and 50F162 shall not exceed 0.11 lb/hr, each.

~~*(f) The particulate emission rates from baghouses 50F45 and 50F48 shall not exceed 0.07 lb/hr, combined.*~~

~~*(g) The particulate emission rate from bin vents 33F42, 33F43, 33F40, and 33F41 and baghouse 50F11 shall not exceed 0.55 lb/hr, combined.*~~

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Comment 22:

Condition D.7.3 includes PM emission limits for emission units that are identical to PM limits provided in Section D.7.2 (Avoidance Limits for PSD). Tag numbers referenced in Section D.7.3 emission limits are for particulate control equipment whereas the limits in Section D.7.2 are for the emission units themselves. Tate & Lyle believes this duplication of emission limits is unnecessary and potentially confusing to the Sagamore facility. The development of PSD avoidance limits would inherently require a review to ensure the limits are more stringent than the 326 IAC 6-3-2

allowable particulate emission limits based on maximum process weight rate for these facilities. However, if IDEM believes it necessary to explicitly state that fact, it could repeat the paragraph included at the end of Section D.7.3 with identical language at the end of each individual paragraph in Section D.7.2.

Response to Comment 22:

IDEM agrees with the recommended changes, since they only clarify and simplify the existing conditions. The permit has been revised as follows:

D.7.2 Avoidance Limits for PSD [326 IAC 2-2] ***[326 IAC 6-3-2]***

* * * * *

(f) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 40D1, 7V8, 7V9, 43D71, 40G88, 7V34, 7V35, 7V91, 7V92, 50V111, 50V112, 50F106, and 50D101 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ ***where E = rate of emission in pounds per hour and P = process weight rate in tons per hour***

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ ***where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour***

The PSD avoidance limits for PM in Conditions D.7.2(a), D.7.2(c), and D.7.2(e) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.7.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 43V90, ~~40D1,~~ 40F7, 25F1, 25G1, ~~7V8, 7V9, 43D71, 40G88, 7V34, 7V35, 7V91, 7V92, 41F200, 41G200, 41F201, 41G201, 41V10, 41V11, 41F13, 30D1,~~ 16D4, 16D5, 7F25, 7F26, 7V50, 7V49, 7V48, 7V47, ***and*** *7V46~~, 50D101, 50V111, 50V112, 50F106, and 30G1~~ shall be limited as follows:*

(a) The particulate emission rate~~s~~ from bin vent~~s~~ 43F90~~, 7F8, 7F9, 41F10, 41F11, and 41F13~~ shall not exceed 0.03 lb/hr~~, each~~. ***Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(b) and represents the PTE of the emission unit after control.***

(b) The particulate emission rates from baghouses 7F25 and 7F26 shall not exceed 0.03 lb/hr, each.

~~*(c) The particulate emission rate from scrubber 40F3 shall not exceed 1.2 lb/hr.*~~

*~~(d)~~**(c)*** *The particulate emission rate from baghouse 40F7 shall not exceed 0.15 lb/hr.* ***Note: This particulate emission rate limit is more restrictive than the limit provided under Condition D.7.2(a) and represents the PTE of the emission unit after control.***

*~~(e)~~**(d)*** *The particulate emission rate from baghouse 25F1 shall not exceed 0.05 lb/hr.*

*~~(f)~~**(e)*** *The particulate emission rate~~s~~ from baghouse~~s~~ 25F2 ~~and 40F88~~ shall not exceed 0.23 lb/hr~~, each~~.*

~~*(g) The particulate emission rate from scrubber 43F80 shall not exceed 7.54 lb/hr.*~~

~~*(h) The particulate emission rates from bin vents 7F34, 7F35, 7F91, and 7F92 shall not exceed 0.20 lb/hr, each.*~~

~~*(i) The particulate emission rates from baghouses 41F200 and 41F210 shall not exceed 0.28 lb/hr, combined.*~~

~~*(j) The particulate emission rates from baghouses 41F201 and 41F211 shall not exceed 0.39 lb/hr, combined.*~~

~~*(k) The particulate emission rates from baghouses 30F2 and 30F3 shall not exceed 4.45 lb/hr, combined.*~~

*~~(l)~~**(f)*** *The particulate emission rates from scrubbers 16F26 and 17F78 shall not exceed 3.89 lb/hr, combined.*

*~~(m)~~**(g)*** *The particulate emission rates from scrubbers 16F27 and 17F79 shall not exceed 3.89 lb/hr, combined.*

*~~(n)~~**(h)*** *The particulate emission rates from bin vents 7F73, 7F72, 7F71, 7F70, and 7F69 shall not exceed 0.06 lb/hr, each.*

~~*(o) The particulate emission rate from baghouse 50F102 shall not exceed 1.10 lb/hr.*~~

~~*(p) The particulate emission rate from baghouse 50F106 shall not exceed 0.10 lb/hr.*~~

~~*(q) The particulate emission rate from baghouse 30F15 shall not exceed 0.95 lb/hr.*~~

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Comment 23:

Condition D.7.5(b) should be revised to remove the roll dryer mill feed collector (19F400). This unit was actually installed in 2006 as a cyclone rather than a baghouse and thus does not belong in Section D.7.3(b). The roll dryer mill feed collector 19F400 exhausts into the intake of mill 19G401, which is eventually controlled by product collector/baghouse 19F402. Please revise as follows:

D.7.5 Particulate Control

* * * * *

(b) In order to comply with Conditions D.7.1, D.7.2, and D.7.3, baghouses 40F7, 25F1, 25F2, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 30F2, 30F3, 41F14, 41F15, 7F25, 7F26, 50F102, 50F106, 46F231, 46F232, 30F15, ~~19F400,~~ 19F402, 41F20, and 41F21 for particulate control shall be in operation and control particulate emissions from emission units 40F7, 25F1, 25G1, 40G20, 40G21, 40G88, 41F200, 41G200, 41F201, 41G201, 30D1, 41C30, 7F25, 7F26, 50D101, 50V111, 50V112, 50F106, 46D200, 30G1, ~~19F400,~~ 19G401, and 41C35 at all times those emission units are in operation.

* * * * *

Response to Comment 23:

IDEM agrees with the recommended changes, since the mill 19G401 is eventually controlled by product collector/baghouse 19F402, which will still be listed in Condition D.7.5(b). The permit has been revised as requested above.

Comment 24:

Condition D.7.10(b) should be revised to remove baghouses 41F200 and 41F201 and cyclone 19F400 from the requirement of pressure drop monitoring. These units do not exhaust to atmosphere but instead exhaust into starch roll dryer mills 41G200, 41G201, and 19G401 which are controlled by baghouses 41F210, 41F211, and 19F402 respectively. The exhausts from these product transfer collectors (41F200, 41F201, and 19F400) are used to pneumatically convey milled starch from the mills (41G200, 41G201, and 19G401) into the mill receivers (41F210, 41F211, and 19F402). Because the mill receivers control the entire roll dried starch output from the mills, it does not matter if the product transfer collectors are operating as emission control devices. The only impact that a reduction in efficiency of the product transfer collectors causes is that a larger portion of the production from the roll dryers misses the milling step and is instead carried directly with the exhaust of the product transfer collectors into the mill receivers. For these product transfer collectors, there is no environmental benefit realized by requiring pressure drop monitoring.

Comment 25:

Condition D.7.13(f) should be revised to remove roll dryer product transfer collectors 41F200, 41F201, and 19F400 for reasons provided in our comments related to Condition D.7.10.

Response to Comments 24 and 25:

IDEM agrees with the recommended changes, since the exhausts from baghouse 41F200, baghouse 41F201, and cyclone 19F400 are routed to other emission units which have additional control devices and does not vent directly to the atmosphere. The permit has been revised as follows:

D.7.10 Baghouse Parametric Monitoring

* * * * *

(b) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, ~~41F200,~~ 41F210, ~~41F201,~~ 41F211, ~~19F400,~~ 19F402, 30F15, and 50F102 used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, ~~41F200,~~ 41G200, ~~41F201,~~ 41G201, ~~19F400,~~ 19G401, 30G1, and 50D101 at least once per day when the respective emission units are in operation.

* * * * *

D.7.13 Record Keeping Requirements

* * * * *

(f) To document the compliance status with Condition D.7.10, the Permittee shall maintain a daily record of the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, ~~41F200,~~ 41F210, ~~41F201,~~ 41F211, ~~19F400,~~ 19F402, 30F2, 30F3, 30F15, 46F231, 46F232, and 50F102 controlling the Starch Handling and Drying Operation exhaust. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

* * * * *

Comment 26:

Condition D.8.1(a) should be revised as follows to clarify the bulk rail loadout identification:

D.8.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

*(1) Bulk Starch Rail Loadout **#2** (20F60);*

(2) Packer #3 Product Receivers and Packers (41F7, 41F181, 41Z3, 41F18, 41Z5, 41F182, 41Z1, 41F183, and 41Z2); and

(3) Packer #3 House Dust Collector (41F186)

* * * * *

Response to Comment 26:

IDEM agrees with the recommended changes, since they are only for clarifying the name of the emission unit and are not modifying the BACT determination. The permit has been revised as requested above.

Comment 27:

Condition D.8.2(a) should be revised to delete the replication of emission limits for the #3 Bulk Bagger Product Receivers and to include the product transfer receiver (17F01) associated with Bag Packer #2 (17Z01) on which the PM emission limit is based. The emission limits for product receivers 41F8, 41F81, and 41F82 are properly included in Section 8.2(c) which references the construction permit (CP 157-5294-00003) under which the #3 Bulk Bagger system was installed and should be removed from Condition D.8.2(a).

Comment 28:

Condition D.8.2(d) should be deleted it its entirety since it duplicates emission limits for emission units 20F1 and 20F50 that are included in Section D.8.2(a).

Comment 29:

Conditions D.8.2(e) and D.8.4(a) should be revised to correct the equipment tag numbers for the Bag Packer #2 House Dust Collector (17F02) and to include the house dust collection system (17F10) associated with Bag Packer #1 (17Z38) on which the PM emission limit is based.

Comment 30:

Condition D.8.3 includes PM emission limits for emission units that are identical to PM limits provided in Section D.8.2 (Avoidance Limits for PSD). Tag numbers referenced in Section D.8.3 emission limits are for particulate control equipment whereas the limits in Section D.8.2 are for the emission units themselves. Tate & Lyle believes this duplication of emission limits is unnecessary and potentially confusing to the Sagamore facility. The development of PSD avoidance limits would inherently require a review to ensure the limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission limits based on maximum process weight rate for these facilities. However, if IDEM believes it necessary to explicitly state that fact, it could repeat the paragraph included at the end of Section D.8.3 with identical language at the end of each individual paragraph in Section D.8.2.

Response to Comments 27, 28, 29, and 30:

IDEM agrees with the recommended changes, since they are only clarifying and simplifying the existing conditions and correcting typographical errors. The permit has been revised as follows:

D.8.2 Avoidance Limits for PSD [326 IAC 2-2] ***[326 IAC 6-3-2]***

(a) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4160-00003 and Significant Source Modification 157-30564-00003, the PM emissions from emission units ***17F01,*** *17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79 shall not exceed the emissions limits listed in the table below:*

Facility	*Stack*	*PM limit (lb/hr)*	*PM_{10} limit (lb/hr)*
Product Receiver (17F01) for *Bag Packer #2 (17Z01)*	*177*	*0.17*	*N/A*
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	*334*	*0.03, total*	*0.03, total*
Bulk Bagger #2 (17Z14), Product Transfer for Bulk Bagger #2 (17F14)	*254*	*0.08, total*	*0.08, total*
~~*Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)*~~	~~*208 to 355*~~	~~*0.11*~~	~~*0.11*~~
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	*330/331 to 404*	*1.0, total*	*1.0, total*
Pneumatic Truck Loadout (20F78/20F79)	*404*	*0.12, total*	*0.12, total*

Compliance with the above limits, combined with the netting project according to CP 157-2993-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units ***17F01,*** *17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79.*

* * * * *

~~*(d) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from emission units 20F1 and 20F50 are limited to 1.0 pound per hour, combined. Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable to emission units 20F1 and 20F50.*~~

~~*(e)*~~***(d)*** *In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z38, 17V04, ~~17F2~~* ***17F02****, 17V05, 17F15, and 17V06 shall not exceed the emissions limits listed in the table below:*

Emission Unit(s)	*Stack(s)*	*PM Limit (lb/hr)*	*PM_{10} Limit (lb/hr)*
House Dust Collector (17F10) for Bag *Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)*	*177*	*1.24, total*	*1.24, total*
Bag Packer #2 House Dust Collector (~~17F2~~ ***17F02****), Packer #2 Reject Bag Dump (17V05)*	*177*	*1.1, total*	*1.07, total*
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	*333*	*2.2, total*	*1.07, total*

Compliance with the above limits, combined with the limited PM emissions from emission units ~~17F2~~ ***17F02*** *and 17V05, shall render the requirements of 326 IAC 2-2 not applicable to emission units 17Z38, 17V04, ~~17F2~~* ***17F02****, 17V05, 17F15, and 17V06.*

(e) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the emission units 17F01, 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F78, 20F79, 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, 41F6, 17F10, 17Z38, 17V04, 17F02, 17V05, 17F15, and 17V06 shall not exceed a calculated pounds per hour limitation when operating at the corresponding process weight rate. Each pound per hour limitation shall be calculated with the following equations:

(1) Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ ***where E = rate of emission in pounds per hour and P = process weight rate in tons per hour***

(2) Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ ***where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour***

The PSD avoidance limits for PM in Conditions D.8.2(a), D.8.2(c), and D.8.2(d) are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these noted PM limits shall satisfy compliance with 326 IAC 6-3-2.

D.8.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

*The particulate emission rates from emission units 17V6, ~~17U58, 17U59,~~ 16F5, 17F27, ~~17Z38, 17V04, 17Z01, 17F2, 17V05, 41F44,~~ 17Z03, ~~17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 41Z6,~~ 20F1, 20F50, **and** 20F61~~, 20F78, 20F79, 16F100, and 41F6~~ shall be limited as follows:*

(a) The particulate emission rate from baghouse 17F6 shall not exceed 0.12 lb/hr.

~~*(b) The particulate emission rate from baghouse 17F58 shall not exceed 0.03 lb/hr.*~~

~~*(c)*~~***(b)*** *The particulate emission rates from baghouses 16F5 and 17F27 shall not exceed 0.13 lb/hr, combined.*

~~*(d) The particulate emission rate from baghouse 17F10 shall not exceed 1.59 lb/hr.*~~

~~*(e)*~~***(c)*** *The particulate emission rate~~s~~ from baghouse~~s~~ ~~17F01,~~ 20F61~~, and 16F100~~ shall not exceed 0.17 lb/hr~~, each~~.*

~~*(f) The particulate emission rate from baghouse 17F2 shall not exceed 1.1 lb/hr.*~~

~~*(g) The particulate emission rate from baghouse 41F44 shall not exceed 0.69 lb/hr.*~~

~~*(h)*~~***(d)*** *The particulate emission rates from baghouses 17F03 and 17F04 shall not exceed 0.20 lb/hr, combined.* ***Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(b) and represents the PTE of the emission unit after control.***

~~*(i) The particulate emission rate from baghouse 17F15 shall not exceed 1.07 lb/hr.*~~

~~*(j) The particulate emission rate from baghouse 16F25 shall not exceed 0.13 lb/hr.*~~

~~*(k) The particulate emission rate from baghouse 17F14 shall not exceed 0.08 lb/hr.*~~

~~*(l) The particulate emission rates from baghouses 41F8, 41F81, and 41F82 shall not exceed 0.11 lb/hr, combined.*~~

~~*(m)*~~***(e)*** *The particulate emission rates from baghouses 20F1 and 20F50 shall not exceed 0.15 lb/hr, each.* ***Note this particulate emission rate limit is more restrictive than the limit provided under Condition D.8.2(a) and represents the PTE of the emission unit after control.***

~~*(n) The particulate emission rates from baghouses 20F78 and 20F79 shall not exceed 0.12 lb/hr, combined.*~~

~~*(o) The particulate emission rate from baghouse 41F6 shall not exceed 0.04 lb/hr.*~~

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.8.4 Particulate Control

(a) In order to comply with Conditions D.8.1, D.8.2, and D.8.3, baghouses 17F6, 17F58, 16F5, 17F27, 17F10, 17F01, ~~17F2~~ ***17F02****, 41F18, 41F7, 41F181, 41F182, 41F183, 41F186, 41F44, 17F03, 17F04, 17F15, 16F25, 17F14, 41F8, 41F81, 41F82, 20F1,*

20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 for particulate control shall be in operation and control particulate emissions from emission units 17V6, 17U58, 17U59, 16F5, 17F27, 17Z38, 17V04, 17Z01, ~~17F2~~ ***17F02****, 17V05, 41F18, 41Z5, 41F7, 41F181, 41Z3, 41F182, 41Z1, 41F183, 41Z2, 41F186, 41F44, 41Z6, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6 at all times those emission units are in operation.*

* * * * *

Comment 31:

Condition D.8.8(b) should be deleted in its entirety. Baghouses 20F61 and 20F60 control emissions from Bulk Starch Rail Loadouts #1 and #2. PM_{10} emission limits for these two baghouses are only 0.17 lbs/hr (Condition D.8.3) and 0.09 lbs/hr (Condition D.8.1(b)), respectively. Airflow rates for each of the baghouses are less than 2200 acfm, which is significantly lower than any of the other spray dryer baghouses, starch milling receiver baghouses, or house dust collection system baghouses subject to parametric pressure drop monitoring. IDEM calculated uncontrolled emissions for baghouses 20F61 and 20F60 in the Technical Support Document ("Federal Rule Applicability", page 56) as 14.6 and 7.8 tons per year, respectively, which is far below the 100 tons per year threshold for CAM requirements under 40 CFR 64. In addition, these rail loadout systems do not operate continuously. During calendar year 2011, the on-stream time for Rail Loadout #1 (20F61) was 58.3%, and the on-stream time for Rail Loadout #2 (20F60) was 21.3%. Based on the reasons provided, Tate & Lyle does not believe these two baghouses should have parametric monitoring requirements for monitoring baghouse pressure drop.

Comment 32:

Condition D.8.10(b) should be revised to delete Bulk Starch Rail Loadout baghouses 20F60 and 20F61 for reasons provided in our previous comments related to Section D.8.8(b).

Response to Comments 31 and 32:

IDEM agrees with the recommended changes. Although the emission limit for the Bulk Starch Rail Loadout #2 was established pursuant to PSD BACT, visible emission notations will still be required for both baghouses as stated in Condition D.8.7 and will suffice as their compliance monitoring requirements. The subsequent requirements in Condition D.8.8 have been re-lettered. The permit has been revised as follows:

D.8.8 Baghouse Parametric Monitoring

* * * * *

~~(b) The Permittee shall record the pressure drop across baghouses 20F61 and 20F60 used in conjunction with emission units 20F61 and 20F60 at least once per day when the respective emission units are in operation.~~

* * * * *

D.8.10 Record Keeping Requirements

* * * * *

(b) To document the compliance status with Condition D.8.8, the Permittee shall maintain a daily record of the pressure drop across baghouse~~s~~ 17F10~~, 20F61, and 20F60~~ controlling the Starch Packaging and Loadout Operation exhaust. The Permittee shall include in its

daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

* * * * *

Comment 33:

Conditions D.9.2 and D.9.4 should be revised to indicate the removal of the Lime Storage Silo (31V10). The Lime Storage Silo was recently placed permanently out-of-service due to the installation of a new reverse osmosis boiler water treatment system.

Response to Comment 33:

IDEM agrees with the recommended changes, since the emission unit is no longer in service and will be decommissioned. Therefore, the Utilities Lime Storage Silo (31V10) has been removed from the permit. However, should the source choose to place the silo back into service, the silo will be subject to NSR review and shall require prior approval by IDEM, OAQ before such changes may take place.

The permit has been revised as follows:

D.9.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from emission units 31V3, 31V4, 31V5, 9V32, 31F10, ***and*** *31V1~~, and 31V10~~ shall be limited as follows:*

* * * * *

~~(f) The particulate emission rate from bin vent 31F18 shall not exceed 0.06 lb/hr.~~

~~The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.~~

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.9.4 Particulate Control

* * * * *

(b) In order to comply with Conditions D.9.1 and D.9.2, bin vents 31F21, 31F19, 31F20, 9F32, ***and*** *31F1~~, and 31F18~~ for particulate control shall be in operation and control particulate emissions from emission units 31V3, 31V4, 31V5, 9V32,* ***and*** *31V1~~, and 31V10~~ at all times those emission units are in operation.*

Comment 34:

The title line for Condition D.9.6 should be revised to indicate opacity testing is required under applicable sections of 40 CFR 60, Subpart Y.

D.9.6 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 60.252(c)]**

* * * * *

Response to Comment 34:

A former edition of NSPS, Subpart Y was incorrectly provided in Attachment B. Attachment B has been revised with the most recent version of the NSPS, and Conditions D.9.3 and D.9.6 have been revised to cite the appropriate rule requirement. The permit has been revised as follows:

D.9.3 Opacity [40 CFR 60, Subpart Y]

*Pursuant to 40 CFR ~~60.252(c)~~ **60.254(a)**, an owner or operator subject to the provisions of NSPS, Subpart Y shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.*

*D.9.6 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] **[40 CFR 60.254(a)]***

* * * * *

Comment 35:

Condition D.10.1(g) should be revised to indicate that natural gas is the only fuel that may be burned in boilers 11B1, 11B2, and 11B3. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler.

Comment 36:

Conditions D.10.4(b) should be removed in its entirety. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler.

Comment 37:

Condition D.10.9 should be removed in its entirety. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler.

Comment 38:

Condition D.10.17 should be removed in its entirety. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler. Since visible emission notations for stack 197 were only required when boilers 11B1, 11B2, and 11B3 were firing fuel oil, the condition is no longer applicable.

Comment 39:

Conditions D.10.19(b) and D.10.19(g) should be removed in their entirety. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler. These two record keeping requirements were only applicable for instances when fuel oil was being fired on the utility boilers.

Response to Comments 35, 36, 37, 38, and 39:

IDEM agrees with the recommended changes, since the source no longer requires the ability to run its boilers on fuel oil. Condition D.10.1(h) has also been removed because it is no longer relevant since boilers 11B1, 11B2, and 11B3 will only be able to combust natural gas.

The permit has been revised as follows:

D.10.1 Prevention of Significant Deterioration: Best Available Control Technology [326 IAC 2-2-3]

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

* * * * *

(g) Only one of the identical gas~~/oil~~-fired boilers (11B1, 11B2, or 11B3) will be operated when the coal-fired boiler, 31B1, is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas~~/oil~~ boilers. In no case will this period of time exceed eight (8) hours.

~~*(h) Boilers 11B1, 11B2, or 11B3 will combust only natural gas when fired in conjunction with the coal-fired boiler (31B1).*~~

*~~(i)~~**(h)** In order to ensure compliance with (a) through (f) above, the total amount of coal consumed by boiler 31B1 and the average coal heating value shall be determined on a monthly basis with compliance determined, per twelve consecutive month period, at the end of each month.*

* * * * *

D.10.4 Sulfur Dioxide [326 IAC 7-1.1-2] [326 IAC 7-2-1]

~~(a)~~ Pursuant to 326 IAC 7-1.1-2(a)(1) (Sulfur Dioxide Emission Limitations), the sulfur dioxide emissions from boiler 31B1 shall not exceed 6.0 pounds per MMBtu heat input when combusting coal. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable. Compliance with Condition D.10.1(c) will ensure compliance with 326 IAC 7-1.1.

~~*(b) Pursuant to 326 IAC 7-1.1-2(a)(3) (Sulfur Dioxide Emission Limitations), the sulfur dioxide emissions from boilers 11B1, 11B2, and 11B3 shall not exceed 0.5 pounds per MMBtu heat input, each, when combusting fuel oil #2. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.*~~

~~*D.10.9 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3-7-4]*~~

~~*Compliance with Condition D.10.4 shall be determined utilizing one of the following options:*~~

~~*(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions from boilers 11B1, 11B2, and 11B3 do not exceed five-tenths (0.5) pound per million Btu heat input when combusting fuel oil #2 by:*~~

~~*(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;*~~

~~*(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.*~~

~~*(A) Oil samples may be collected from the fuel tank used in conjunction with the boilers immediately after the fuel tank is filled and before any oil is combusted; and*~~

~~*(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.*~~

~~*(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the boiler using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.*~~

~~*A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.*~~

*D.10.~~10~~**9** Sulfur Dioxide (SO_2) Emissions Monitoring [326 IAC 3-5] [326 IAC 7-2-1(g)]*

* * * * *

*D.10.~~11~~**10** Nitrogen Oxides (NO_x) Emissions Monitoring [326 IAC 3-5] [326 IAC 3-5-1(d)]*

* * * * *

*D.10.~~12~~**11** Continuous Opacity Monitoring [326 IAC 3-5]*

* * * * *

*D.10.~~13~~**12** Opacity Readings [40 CFR 64]*

*Compliance with the applicable opacity limitation in Condition D.10.5 shall be monitored by continuously measuring and recording the opacity of emissions from the stack exhaust. The opacity shall be determined by the certified continuous opacity monitor required in Condition D.10.~~12~~**11**. If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.*

*D.10.~~14~~**13** Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]*

* * * * *

*D.10.~~15~~**14** Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]*

* * * * *

*D.10.~~16~~**15** SO_2 Monitor Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(1)]*

* * * * *

~~*D.10.17 Visible Emissions Notations*~~

~~*(a) Visible emission notations of the stack 197 (exhausting emissions from boilers 11B1, 11B2, and 11B3) exhaust shall be performed once per day during normal daylight operations when fuel oil is fired in any one of the respective boilers. A trained employee shall record whether emissions are normal or abnormal.*~~

~~*(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.*~~

~~*(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.*~~

~~*(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.*~~

~~*(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.*~~

*D.10.~~18~~**16** Broken or Failed Bag Detection – Multi-Compartment Baghouse*

* * * * *

*D.10.~~19~~**17** Record Keeping Requirements*

(a) To document the compliance status with Condition D.10.1, the Permittee shall maintain monthly records of the heating value and amount of coal consumed by boiler 31B1.

~~*(b) To document the compliance status with Condition D.10.4, the Permittee shall maintain records in accordance with (1) through (6) below:*~~

~~*(1) Calendar dates covered in the compliance determination period;*~~

~~*(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide emissions; and*~~

~~*(3) To certify compliance when burning natural gas only, the Permittee shall maintain records of fuel used.*~~

~~*If the fuel supplier certification is used to demonstrate compliance, when burning alternate fuels and not determining compliance pursuant to 326 IAC 3-7-4, the following, as a minimum, shall be maintained:*~~

~~*(4) Fuel supplier certifications,*~~

~~*(5) The name of the fuel supplier, and*~~

~~*(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.*~~

*~~(c)~~**(b)** To document the compliance status with Condition D.10.~~10~~**9** and D.10.~~11~~**10**, the Permittee shall maintain records of the continuous emission monitoring data for SO_2 and NO_x in accordance with 326 IAC 3-5.*

*~~(d)~~**(c)** To document the compliance status with Condition D.10.~~13~~**12**, the Permittee shall maintain records of the continuous opacity monitoring data in accordance with 326 IAC 3-5. Records shall be complete and sufficient to establish compliance with the limits established in this section.*

*~~(e)~~**(d)** To document the compliance status with Condition D.10.~~14~~**13**, when the COMS is not functioning, the Permittee shall maintain records of visible emissions notations of the stack exhaust.*

*~~(f)~~**(e)** To document the compliance status with Conditions D.10.~~15~~**14** and D.10.~~16~~**15**, when the CEMS is not functioning, the Permittee shall maintain records of instrument downtime and fuel analysis.*

~~*(g) To document the compliance status with Condition D.10.17, the Permittee shall maintain records of once per day visible emission notations of the stack exhaust when boilers 11B1, 11B2, or 11B3 are burning fuel oil or maintain a record of the reason why the visible emission notations not taken.*~~

*~~(h)~~**(f)*** *Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.*

*D.10.~~20~~**18** Reporting Requirements*

* * * * *

Comment 40:

Conditions D.10.20(a) and D.10.20(b) should be removed in their entirety. Tate & Lyle has recently made the decision to discontinue the use of No.2 fuel oil for its three gas boilers and its coal boiler. These two reporting requirements were only applicable when it was possible for the three gas boilers (11B1, 11B2, and 11B3) to fire fuel oil. In addition, the Semi-Annual Natural Gas Fired Boiler Certification form should be removed because boilers 11B1, 11B2, and 11B3 will only be allowed to burn natural gas.

Response to Comment 40:

Even with the discontinued use of No.2 fuel oil, coal-fired boiler 31B1 will still maintain the ability to operate using natural gas or coal/starch mixture as supplement fuels. Therefore, these requirements will still apply to the source as a whole. No changes were made as a result of this comment.

Comment 41:

Sections D.10.10, D.10.11, and D.10.12 require that the SO_2 and NO_x CEMS and the Opacity COM be operated pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions). A quarterly monitoring report for these CEMS and COM is required to be submitted to IDEM under 326 IAC 3-5-7 which includes information on excess emissions and continuous emission monitor downtime. This quarterly reporting requirement is not otherwise addressed in any condition of the current or draft Part 70 permit and should be added as a new condition.

Response to Comment 41:

IDEM agrees to clarify the permit to state that the source should be submitting a quarterly monitoring report for the CEMS and COM as required pursuant to 326 IAC 3-5-7. The permit has been revised as follows:

*D.10.~~20~~**18** Reporting Requirements*

* * * * *

(d) ***A monitoring report for boiler 31B1 excess emissions and continuous emission monitor downtime shall be submitted not later than thirty (30) days after the end of the quarter being reported. The report shall include all coal boiler 31B1 continuous monitors required to be operated under 326 IAC 3-5 and shall be prepared in accordance with IAC 3-5-7. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).***

Comment 42:

Condition D.12.6 requires a quarterly summary of gasoline throughput to document compliance with Condition D.12.4 be submitted on a quarterly basis. Condition D.12.4 limits the throughput of Tank #3 (1,000 gallon gasoline storage tank) to 10,000 gallons per month. Because this tank is used solely for fueling vehicles used at the site, it is extremely unlikely the tank would be filled every 3 days. In fact, the Sagamore facility only used between 8,600 and 16,400 gallons of gasoline each year during the period of 2008 and 2010. There is no corresponding requirement under 326 IAC 8-4-6 to submit recurring usage reports for gasoline throughput to document compliance status with the exemption from 326 IAC 8-4-6(a) and (b). 326 IAC 8-4-6(d) states the following:

> "Upon request by the department, the owner or operator of a gasoline dispensing facility that claims to be exempt from the requirements of this section shall submit records to the agency within thirty (30) calendar days from the date of the request that demonstrate that the gasoline dispensing facility is in fact exempt."

The regulations under 326 IAC 8-4-6 do not anticipate a continuing obligation to report gasoline usage from an exempt tank and any such requirement would be considered burdensome since other regulated entities that do not require a Part 70 permit would have no such obligation. The Annual Compliance Certification required under Section B.9 of the draft Part 70 permit ensures to IDEM that records of gasoline usage are being kept in accordance with Condition D.12.5 and that gasoline usage does not exceed 10,0000 gallons per month for Tank #3 (Condition D.12.4).

Therefore, based on this unnecessary and burdensome requirement, Tate & Lyle requests that Section D.12.6 be removed in its entirety and that the quarterly reporting form for storage tank #3 also be removed.

Response to Comment 42:

IDEM agrees with the recommended changes, since they are consistent with the requirements as stated in 326 IAC 8-4-6(d). The permit has been revised as follows:

~~*D.12.6 Reporting Requirements*~~

~~*A quarterly summary of the gasoline throughput to document the compliance status with Condition D.12.4 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).*~~

* * * * *

~~*INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT*~~
~~*OFFICE OF AIR QUALITY*~~
~~*COMPLIANCE AND ENFORCEMENT BRANCH*~~

~~*Part 70 Quarterly Report*~~

~~*Source Name:* *Tate & Lyle, Sagamore*~~
~~*Source Address:* *2245 North Sagamore Parkway, Lafayette, Indiana 47904*~~
~~*Part 70 Permit No.:* *T157-27029-00003*~~
~~*Facility:* *Storage Tank (Tank #3)*~~
~~*Parameter:* *Monthly gasoline throughput*~~
~~*Limit:* *Shall not exceed 10,000 gallons per month*~~

~~*QUARTER :* _____ *YEAR:* _____~~

~~*Month*~~	~~*Throughput (Gallons)*~~
~~*Month 1*~~	
~~*Month 2*~~	
~~*Month 3*~~	

~~☐ *No deviation occurred in this quarter.*~~

~~☐ *Deviation/s occurred in this quarter.*~~
~~*Deviation has been reported on:*~~

~~*Submitted by:* _____~~
~~*Title / Position:* _____~~
~~*Signature:* _____~~
~~*Date:* _____~~
~~*Phone:* _____~~

Comment 43:

Section E.4.2 should be revised to remove references to Tables 4 and 7 of 40 CFR 63, Subpart ZZZZ. The 317 hp emergency diesel generator, installed in 1998 at the wastewater treatment facility, does not require performance testing as specified in Table 4. In addition, reporting requirements listed in Table 7 only apply to non-emergency generators.

Response to Comment 43:

First, pursuant to 40 CFR 63.6612(a), since the source owns and operates an existing stationary reciprocating internal combustion engine (RICE) with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, it must conduct any initial performance test or other initial compliance demonstration according to Table 4 to 40 CFR 63, Subpart ZZZZ. Item 1 of this table (regarding the reduction of CO emissions) involves compression ignition (CI) stationary RICE. Similarly, Item 3 of this table (regarding limiting the concentration of formaldehyde or CO in the stationary RICE exhaust) involves all stationary RICE. Since the generator is a stationary CI RICE, then these requirements of Table 4 apply to the generator.

Second, IDEM agrees that Table 7 does not apply to the generator since the reporting requirements listed in Table 7 only apply to non-emergency generators.

The permit has been revised as follows:

E.4.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee which engages in the use of a reciprocating internal combustion engine shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment D of this permit):

(a) 40 CFR 63.6580;
(b) 40 CFR 63.6585(a), (b);
(c) 40 CFR 63.6590(a)(1)(ii);
(d) 40 CFR 63.6595(a)(1), (c);
(e) 40 CFR 63.6602;
(f) 40 CFR 63.6605;
(g) 40 CFR 63.6612;
(h) 40 CFR 63.6620;
(i) 40 CFR 63.6625(e)(2), (f), (h), (i), (j);
(j) 40 CFR 63.6635;
(k) 40 CFR 63.6640(a), (b), (f)(1);
(l) 40 CFR 63.6645(a)(5);
(m) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(n) 40 CFR 63.6655(a), (d), (e)(2), (f)(1);
(o) 40 CFR 63.6660;
(p) 40 CFR 63.6665;
(q) 40 CFR 63.6670;
(r) 40 CFR 63.6675;
(s) Table 2c to 40 CFR 63 Subpart ZZZZ;
(t) Table 4 to 40 CFR 63 Subpart ZZZZ; ***and***
*(u) Table 6 to 40 CFR 63 Subpart ZZZZ~~; and~~**.***
~~(v) Table 7 to 40 CFR 63 Subpart ZZZZ.~~

Comment 44:

As part of the Technical Support Document, IDEM reviewed requests for determination of air pollution control devices as integral control devices. For control devices listed in paragraphs (d) through (o) of this section of the TSD, IDEM evaluated information provided by Tate & Lyle and determined that those listed control devices would not be considered integral to the process. Tate & Lyle continues to maintain it has submitted sufficient information to justify that bin vents and certain other types of baghouses be considered integral to the process (see paragraphs (d), (e), (i), (m), (n), and (o)). However, IDEM's conclusion, in paragraph (g) of this section of the TSD, that cyclones not be considered integral to the process is simply in error and not consistent with previous determinations for flash dryers and spray dryers at the Sagamore facility. High efficiency product cyclones for flash dryers and spray dryers receive the entire production of the dryer as clearly indicated in Process Flow Diagrams submitted as part of our Part 70 permit application. Without these cyclones, these types of dryers would be unable to operate properly.

Tate & Lyle requests IDEM re-evaluate the dryer cyclones listed in the table below as integral control devices and make the necessary corrections in Sections A and D of the draft permit.

Equipment ID	Description	Section A	Page	Section D	Page
21F501-21F502	Fiber Flash Dryer Product Cyclones	A.2(c)(1)	14	D.3(c)(1)	66
48F101-48F102	Gluten Flash Dryer Product Cyclones	A.2(c)(6)	14	D.3(c)(6)	66
46F221-46F224	Spray Dryer #2 Product Cyclones	A.2(g)(54)	24	D.7(g)(54)	94

Response to Comment 44:

IDEM, OAQ has re-evaluated the justifications and agrees that the cyclones will be considered as an integral part of the feed production and starch drying operations, since the air flow handled by these specified cyclones are exhausted to and controlled by additional control devices (scrubber 21F13 for the flash dryer cyclones and baghouses 46F231 and 46F232 for the spray dryer cyclones). Therefore, the permitting level will be determined using the potential to emit after the cyclones. Operating conditions in the proposed permit will specify that these cyclones shall operate at all times when the specified feed production and starch drying operations are in operation.

However, the TSD is used by IDEM, OAQ for historical purposes, and IDEM, OAQ does not make any changes to the original TSD. Therefore, IDEM, OAQ is clarifying the intent of the TSD, but cannot revise the TSD as requested.

The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by ***integral*** *product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.*

* * * * *

*(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by **integral** product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.*

* * * * *

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

*(54) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by **integral** cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.*

* * * * *

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Feed/Meal/Germ Production Operations, consisting of:

*(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by **integral** product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.*

* * * * *

*(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by **integral** product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

* * * * *

D.3.6 Particulate Control

* * * * *

(e) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 21F501 and 21F502 shall be in operation and control particulate emissions from emission unit 21D501 at all times when the material feed system to emission unit 21D501 is in operation.

(f) In order to comply with Conditions D.3.1(b), D.3.1(c), and D.3.1(d), integral product collectors/cyclones 48F101 and 48F102 shall be in operation and control particulate emissions from emission unit 48D101 at all times when the material feed system to emission unit 48D101 is in operation.

* * * * *

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

*(54) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by **integral** cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

D.7.5 Particulate Control

* * * * *

(d) In order to comply with Condition D.7.1(b), integral cyclones 46F221 through 46F224 shall be in operation and control particulate emissions from emission unit 46D200 at all times when the material feed system to emission unit 46D200 is in operation.

* * * * *

Comment 45:

It is common practice in our industry to use baghouses for the pneumatic conveying of a product. Many previous determinations by IDEM have indicated baghouses used as product collector receivers for pneumatic systems at the Sagamore facility would be considered integral to the system. It is not possible to pneumatically transfer product without a product receiver such as a baghouse as is clearly indicated in Process Flow Diagrams submitted as part of our Part 70 permit application.

Tate & Lyle requests IDEM reevaluate the product receiver baghouses listed in the table below as integral control devices and make the necessary corrections in Sections A and D of the draft permit.

Equipment ID	Description	Section A	Page	Section D	Page
19G401	Roll Dyer Mill Collector	A.2(g)(65)	25	D.7(g)(65)	95
17F27	Packer #1 Cationic Product Receiver	A.2(h)(5)	25	D.8(h)(5)	107
41F18	Packer #3 Roll Dried Starch Receiver	A.2(h)(11)	26	D.8(h)(11)	107
41F181	Packer #3 O.S. Starch Receiver	A.2(h)(14)	26	D.8(h)(14)	108
41F182	Packer #3 Malto Product Receiver	A.2(h)(16)	26	D.8(h)(16)	108
41F183	Packer #3 Dry Starch Reacted Product Rec.	A.2(h)(18)	26	D.8(h)(18)	108

Response to Comment 45:

IDEM, OAQ has re-evaluated the justifications and agrees that the product receiver baghouses will be considered as an integral part of the starch drying and starch packaging operations, since Tate & Lyle has demonstrated that the controls are integral using the guidance provided in the following EPA memo: http://www.epa.gov/region07/programs/artd/air/nsr/nsrmemos/proequip.pdf. Therefore, the permitting level will be determined using the potential to emit after the baghouses. Operating conditions in the proposed permit will specify that these baghouses shall operate at all times when the specified starch drying and starch packaging operations are in operation.

However, the TSD is used by IDEM, OAQ for historical purposes, and IDEM, OAQ does not make any changes to the original TSD. Therefore, IDEM, OAQ is clarifying the intent of the TSD, but cannot revise the TSD as requested.

The permit has been revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

* * * * *

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

*(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by **integral** product collector/baghouse 19F402, and exhausting to stack 366.*

* * * * *

(h) Starch Packaging and Loadout Operations, consisting of:

* * * * *

*(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by **integral** baghouse 17F27, and exhausting to stack 102.*

* * * * *

*(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by **integral** baghouse 41F18, and exhausting via vent 186 to stack 355.*

* * * * *

*(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by **integral** baghouse 41F181, and exhausting via vent 184 to stack 355.*

* * * * *

*(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by **integral** baghouse 41F182, and exhausting via vent 428 to stack 355.*

* * * * *

*(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by **integral** baghouse 41F183, and exhausting via vent 429 to stack 355.*

* * * * *

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(g) Starch Drying and Handling Operations, consisting of:

* * * * *

*(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by **integral** product collector/baghouse 19F402, and exhausting to stack 366.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

D.7.5 Particulate Control

* * * * *

(e) In order to comply with Condition D.7.1(a), integral product collector/baghouse 19F402 shall be in operation and control particulate emissions from emission unit 19G401 at all times when the material feed system to emission unit 19G401 is in operation.

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(h) Starch Packaging and Loadout Operations, consisting of:

* * * * *

*(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by **integral** baghouse 17F27, and exhausting to stack 102.*

* * * * *

*(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by **integral** baghouse 41F18, and exhausting via vent 186 to stack 355.*

* * * * *

*(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by **integral** baghouse 41F181, and exhausting via vent 184 to stack 355.*

* * * * *

*(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by **integral** baghouse 41F182, and exhausting via vent 428 to stack 355.*

* * * * *

*(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by **integral** baghouse 41F183, and exhausting via vent 429 to stack 355.*

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Comment 46:

The Technical Support Document (TSD) on pages 131, 132, and 146 references an additional new particulate testing requirement for the hammermill aspiration scrubber 21F312 which controls emission units 21G351, 21G352, and 21U314. However, this requirement does not appear in the draft permit or on page 114 of the Technical Support Document. The applicable PM and PM_{10} emission limit for scrubber 21F312 is only 0.204 lbs/hr at a rated airflow of only 3000 acfm. Parametric monitoring of the scrubber recirculation flow rate is required for scrubber 21F312; therefore, requiring a compliance test every five years for a relatively small emission unit that requires daily visible emission notations and scrubber monitoring is excessive and should not be included in the final permit.

Tate & Lyle requests verification that there is no requirement for a compliance test for scrubber 21F312.

Response to Comment 46:

IDEM agrees that there should not be a testing requirement for scrubber 21F312, as stated in the permit; the references on pages 131, 132, and 146 of the TSD should have been removed and were inadvertently overlooked. However, the TSD is used by IDEM, OAQ for historical purposes, and IDEM, OAQ does not make any changes to the original TSD. Therefore, IDEM, OAQ is clarifying the intent of the TSD, but cannot revise the TSD as requested.

Comment 47:

For all natural gas combustion device emission calculations, Tate & Lyle used a higher heating value (HHV) for natural gas of 1040 Btu/scf. IDEM used a value of 1000 Btu/scf. In calculating total emissions from combustion, the IDEM value used will result in a 4% increase in emissions as compared to those that were submitted with the application.

Response to Comment 47:

IDEM agrees to recalculate all natural gas combustion emissions using a heating value of 1020 Btu/scf. This is based on the information found in AP-42, Chapter 1.4, Section 1.4.1 and Table 1.4-1. These revised calculations do not alter any rule applicability determinations. See Appendix A to the TSD Addendum for a detailed copy of the revisions to the calculations.

Comment 48:

Calculation of PTE for HAPs from the plant boilers uses a scenario analysis of the different fuels that can be fired in the plant boilers. The PTE used in this analysis is usually the worst case of the scenarios. To determine total hazardous air pollutants (HAP) PTE, IDEM chose to determine the worst scenario for each individual HAP and then sum these individual HAPs as the total HAPs PTE from the boilers. Tate & Lyle determined total HAPs under each of the individual scenarios and then chose the highest of these total HAPs as the PTE of all boilers. Tate & Lyle recommends the use of this method of determination.

Response to Comment 48:

IDEM agrees to revise the calculations as stated, since it does not alter any rule applicability determinations. See Appendix A to the TSD Addendum for a detailed copy of the revisions to the calculations.

Comment 49:

Table FE5 (Paved Road Fugitive Emission Calculations) of the Appendix A of the TSD uses a silt loading of 2.9 g/m^2 based on Table 13.2-1.3 of AP-42 as applicable to corn wet mills. This is the high value of the range provided for corn wet mills in Table 13.2-1.3 for silt loading. The stated range is 0.05 to 2.9 g/m^2 with a mean value of 1.1 g/m^2. Tate & Lyle questions the appropriateness of using the maximum silt loading value in paved road emission calculations. The three corn wet milling facilities used to develop the factors in Table 13.2-1.3 are located in Blair, Nebraska; Columbus, Nebraska; and Marshall, Minnesota. It is likely that the number of unpaved county roads in Nebraska is much higher than the number of unpaved county roads in Indiana. Therefore, it is unlikely silt loading on paved roads caused from trucks entering the Sagamore facility would be as high as these more western locations. Tate & Lyle recommends the mean value of 1.1 g/m^2 be used in fugitive emission calculations.

Response to Comment 49:

When source-specific data (such as stack testing or other quantifiable control measuring) is not readily available, IDEM typically utilizes the most conservative emission factor from those established in AP-42. No changes were made as a result of this comment.

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

Revision 1:
The Table of Contents has been revised to correct several omissions and typographical errors. Attachments A through D have also been listed at the bottom of the Table of Contents.

Revision 2:
On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule cites listed in the permit. These changes are not changes to the underlining provisions. The change is only to cite these rules in Section A - General Information, Section A - Emission Units and Pollution Control Equipment Summary, Section A - Insignificant Activities, Section B - Preventative Maintenance Plan, Section B - Emergency Provisions, Section B - Operational Flexibility, and Section C - Risk Management Plan.

*A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5~~(15)~~**(14)**] [326 IAC 2-7-1(22)]*

* * * * *

*A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5~~(15)~~**(14)**]*

* * * * *

*A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5~~(15)~~**(14)**]*

* * * * *

*B.10 Preventive Maintenance Plan [326 IAC 2-7-5~~(1),(3) and (13)~~**(12)**] [~~326 IAC 2-7-6(1) and (6)~~] [326 IAC 1-6-3]*

* * * * *

B.11 Emergency Provisions [326 IAC 2-7-16]

* * * * *

*(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)~~(9)~~**(8)** be revised in response to an emergency.*

* * * * *

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

*(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b)~~,~~ **or** (c)~~, or (e)~~ without a prior permit revision, if each of the following conditions is met:*

* * * * *

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)~~,~~ ***or*** *(c)~~, or (e)~~. The Permittee shall make such records available, upon reasonable request, for public review.*

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1)~~,~~ ***and*** *(c)(1)~~, and (e)(2)~~.*

* * * * *

*C.13 Risk Management Plan [326 IAC 2-7-5~~(12)~~**(11)**] [40 CFR 68]*

* * * * *

Revision 3:
On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions included the incorporation of the U.S. EPA's definition of reasonable possibility. The permit previously cited to the EPA definition. Also, the revisions resulted in changes to other rule cites listed in the permit. Neither of these changes are changes to the underlining provisions. The change is only to the citation of these rules in Section C - General Reporting and Section C - General Recordkeeping.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

* * * * *

(c) If there is a reasonable possibility (as defined in ~~40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)~~ ***326 IAC 2-2-8(b)(6)(A), 326 IAC 2-2-8(b)(6)(B), 326 IAC 2-3-2(l)(6)(A), and/or 326 IAC 2-3-2(l)(6)(B)****) that a "project" (as defined in 326 IAC 2-2-1~~(qq)~~****(oo)*** *and/or 326 IAC 2-3-1~~(ll)~~****(jj)****) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1~~(ee)~~****(dd)*** *and/or 326 IAC 2-3-1~~(z)~~****(y)****) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1~~(rr)~~****(pp)*** *and/or 326 IAC 2-3-1~~(mm)~~****(kk)****), the Permittee shall comply with following:*

*(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1~~(qq)~~****(oo)*** *and/or 326 IAC 2-3-1~~(ll)~~****(jj)****) at an existing emissions unit, document and maintain the following records:*

* * * * *

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

* * * * *

*(iii) Amount of emissions excluded under section 326 IAC 2-2-1~~(rr)~~****(pp)****(2)(A)(iii) and/or 326 IAC 2-3-1~~(mm)~~****(kk)****(2)(A)(iii); and*

* * * * *

*(d) If there is a reasonable possibility (~~as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)~~ **326 IAC 2-2-8(b)(6)(A) and/or 326 IAC 2-3-2(l)(6)(A)**) that a "project" (as defined in 326 IAC 2-2-1~~(qq)~~**(oo)** and/or 326 IAC 2-3-1(~~ll~~ **jj**)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1~~(ee)~~**(dd)** and/or 326 IAC 2-3-1~~(z)~~**(y)**) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1~~(rr)~~**(pp)** and/or 326 IAC 2-3-1~~(mm)~~**(kk)**), the Permittee shall comply with following:*

* * * * *

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

* * * * *

*(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1~~(qq)~~**(oo)** and/or 326 IAC 2-3-1~~(ll)~~**(jj)**) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:*

*(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1~~(xx)~~**(ww)** and/or 326 IAC 2-3-1~~(qq)~~**(pp)**, for that regulated NSR pollutant, and*

* * * * *

Revision 4:
IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. ***Support information includes the following:***

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following:

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates the analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner

makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

* * * * *

Revision 5:
IDEM, OAQ has decided to clarify the Permittee's responsibility under CAM.

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)] ***[40 CFR 64] [326 IAC 3-8]***

(a) *Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:*

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

(b) ***For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.***

(c) ***For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.***

C.14 Response to Excursions or Exceedances ***[40 CFR 64] [326 IAC 3-8]*** *[326 IAC 2-7-5] [326 IAC 2-7-6]*

(I) *Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, in this permit:*

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

(II)

(a) CAM Response to excursions or exceedances.

(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal

without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

(b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply

under federal, state, or local law, or any other applicable requirements under the Act.

(h) CAM recordkeeping requirements.

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

(2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] ***[40 CFR 64] [326 IAC 3-8]***

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. ***Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph.*** *Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.*

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

(1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

* * * * *

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT
* * * * *

This report shall be submitted quarterly based on a calendar year. ***Proper notice submittal under Section B – Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C – General Reporting.*** *Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".*

* * * * *

Revision 6:

Section D.12(e) and Condition D.12.4 involving the gasoline dispensing facilities have been revised to also reference 326 IAC 8-4-9. Section A.3(e) has also been revised to match the descriptive language in Section D.12(e). The permit has been revised as follows:

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities:

* * * * *

~~*(e) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.*~~

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] [326 IAC 8-4-9]

* * * * *

SECTION D.12 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6] ***[326 IAC 8-4-9]***

* * * * *

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

* * * * *

D.12.4 Avoidance Limit for VOC [326 IAC 8-4-6] ***[326 IAC 8-4-9]***

In order to render the requirements of 326 IAC 8-4-6 ***and 326 IAC 8-4-9*** *not applicable to the storage tank identified as Tank #3, the monthly gasoline throughput from Tank #3 shall not exceed 10,000 gallons per month. Compliance with the above limit will render the requirements of 326 IAC 8-4-6* ***and 326 IAC 8-4-9*** *not applicable to Tank #3.*

* * * * *

Revision 7:

The source name on all of the permitting forms has been revised to reflect the current name of the source as follows:

* * * * *

Source Name: *Tate & Lyle~~, Sagamore~~* ***Ingredients Americas LLC***
Source Address: *2245 North Sagamore Parkway, Lafayette, Indiana 47904*
Part 70 Permit No.: *T157-27029-00003*

* * * * *

Revision 8:

The header of Significant Source Modification No. 157-30564-00003 has been revised to clarify its content.

IDEM Contact

(a) Questions regarding this proposed significant source modification and operating permit renewal can be directed to John Haney at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5328 or toll free at 1-800-451-6027 extension 4-5328.

(b) A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore
Plant-Wide Emissions Summary
Table EC

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Plant Area	Ref.	Emission Rates (TPY)																	
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	GHGs (as CO2e)	HAPs									Total HAPs
										Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane	
Corn Receiving and Handling Operations	[1]	5.08	5.08	0.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet Milling Operations	[2]	0	0	0	35.76	0	0	118.25	0	0	1.15	0	0	0	0	0	0	0	1.15
Feed, Meal, & Germ Production Operations	[3]	45.23	45.23	18.48	19.45	26.28	54.91	15.49	51,843	0	0.29	0.17	0.12	0	0	0	0	0.77	1.35
Syrup Refining Operations	[4]	1.58	1.58	0.90	72.26	0	0	4.40	0	0	0	0	0	0	0.07	0	0	0	0.07
Starch Modification Operations	[5]	0.74	0.74	0.42	10.75	0	0	62.26	0	26.69	0	0	0.95	28.27	0	0	0	0	55.90
Starch Reaction Operations	[6]	7.37	7.37	3.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starch Drying and Handling Operations	[7]	194.25	194.25	73.24	0.39	57.88	53.96	10.55	77,505	0	0	9.39	0	0	0	0	0	1.16	10.55
Starch Packaging and Loadout Operations	[8]	38.89	33.81	14.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boiler Support Facilities	[9]	2.37	2.37	0.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utility Area	[10]	54.67	54.67	21.71	1214.46	858.54	135.26	8.86	194,411	0	0.03	0.12	0	0	52.79	6.60	0.11	2.90	60.94
Wastewater Treatment Anaerobic Digester	[11]	0.17	0.17	0.17	39.58	11.99	52.39	19.82	91	0	negl.	negl.	0	0	0	0	0	0	negl.
PLANT-WIDE TOTAL		**350.35**	**345.27**	**134.39**	**1,392.65**	**954.69**	**296.52**	**239.63**	**323,850**	**26.69**	**1.46**	**9.68**	**1.07**	**28.27**	**52.86**	**6.60**	**0.11**	**4.83**	**129.96**
Fugitive Sources	[12]	29.66	6.02	1.45	9.00	0	0	24.92	0	0	4.48	0	0	0	0	0	0	0	4.48
Plant-Wide Total with Fugitive Sources		380.02	351.29	135.84	1,401.64	954.69	296.52	264.55	323,850	26.69	5.95	9.68	1.07	28.27	52.86	6.60	0.11	4.83	134.44

Notes:
[1] Table 1 - Corn Receiving and Handling Operations Particulate Matter Control Device Emission Calculations
[2] Table 2 - Wet Milling Operations SO_2/VOC Control Device Emission Calculations
[3] Table 3A - Feed, Meal, & Germ Production Operations Stack 17 Emissions Summary
[4] Table 4A - Syrup Refining Operations Emission Summary
[5] Table 5A - Starch Modification Operations Emission Summary
[6] Table 6A - Starch Reaction Operations Particulate Matter Control Device Emission Calculations
[7] Table 7A -Starch Drying and Handling Operations: Starch Drying & Storage Emissions Summary
[8] Table 8A - Starch Packaging and Loadout Operations Particulate Matter Control Device Emission Calculations
[9] Table 9A - Boiler Support Facilities Particulate Matter Control Device Emission Calculations
[10] Table 10A - Utility Area Operations Emission Summary
[11] Table 11A - Digester Emissions Summary
[12] Table FE1 - Fugitive Emissions Summary

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Corn Receiving and Handling Operations
Table 1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [6]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [4]	TPY [5]		gr/dscf [7]	lb/hr [8]	TPY [5]
433	12V101	Railcar Corn Dump Hopper	Baghouse	08F300	80	34,500	33,733	0.004	1.16	5.08	0.004	1.16	5.08	0.06667	0.0003	0.08	0.34
	12V102	Truck Corn Dump Hopper															
	8U1	Corn Transfer Conveyor															
	12U2	Bucket Corn Elevator															
	12U4, 12U5	Corn Transfer Conveyors															
	13V1, 13V2, 13V3, 13V4, 13V5	Corn Storage Silos															
	13U6, 13U7, 13U8	Corn Transfer Conveyors															
	14U12 [9]	Corn Cleaner Fill Conveyor															
	14J5	Vibrating Corn Cleaning System															
	14C300 [9]	Corn Cleanings Pneumatic Transfer															
	14U9	Bucket Elevator from Corn Cleaner to Steeps															

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] The grain loading is based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[4] The lb/hr emission rate is based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
This lb/hr BACT limit was inaccurately calculated using actual airflow instead of standard airflow and has been revised, pursuant to Part 70 Operating Permit Renewal T157-27029-00003.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[7] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[8] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[9] The airflow for this emission unit was accounted for when the original BACT was determined.

Appendix A: Emissions Calculations
SO_2/VOC Control Device Emission Calculations
Wet Milling Operations
Table 2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Units Venting to Scrubber 15F401

Wet Milling Operations:
14V3 through 14V14, 14V15, 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210 in addition to Insignificant Activities 14V600, 14P510, and 15V33.

Feed/Meal/Germ Production Operations:
21U403 and 21D3

Syrup Refining Operations:
18V413 and 14X20

Data Element	Data	Value		Reference/Calculation
Molecular Weights of Pollutants				
SO_2	[A]	64	lb/lb-mol	
Ethanol	[B]	46	lb/lb-mol	
Acetaldehyde	[C]	44	lb/lb-mol	
Gas Constant	[D]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature	[E]	68	°F	design value
	[F]	528	°R	[E] + 460°F
Operating Hours	[G]	8,760	hr/yr	design value
Operating Data				
Exhaust Temperature	[H]	100	°F	design value
	[I]	560	°R	[H] + 460°F
Exhaust Rate	[J]	57,931	acfm	based on test data
	[K]	54,621	scfm	[J] x [F] ÷ [I]
Removal Efficiencies				
SO_2	[L]	90.00%		based on BACT determination for SSM 157-18832-00003
Ethanol	[M]	25.00%		based on BACT determination for SSM 157-18832-00003
Acetaldehyde	[N]	0.00%		design value
Uncontrolled Emission Rates				
SO_2	[O]	150	ppm	based on BACT determination for SSM 157-18832-00003
	[P]	81.65	lb/hr	[O] x [K] x [A] x 60 min/hr ÷ ([D] x 1,000,000)
	[Q]	357.65	tpy	[P] x [G] ÷ 2000 lb/ton
Ethanol	[R]	91.11	ppm	based on total VOC BACT limit and scrubber control efficiency
	[S]	35.65	lb/hr	[R] x [K] x [B] x 60 min/hr ÷ ([D] x 1,000,000)
	[T]	156.14	tpy	[S] x [G] ÷ 2000 lb/ton
Acetaldehyde	[U]	0.70	ppm	based on test data for similar processes
	[V]	0.26	lb/hr	[U] x [K] x [C] x 60 min/hr ÷ ([D] x 1,000,000)
	[W]	1.15	tpy	[V] x [G] ÷ 2000 lb/ton
VOC	[X]	35.91	lb/hr	[S] + [V]
	[Y]	157.28	tpy	[X] x [G] ÷ 2000 lb/ton
Limited Emission Rates				
SO_2	[Z]	8.17	lb/hr	[P] x (1 - [L])
	[AA]	35.76	tpy	[Z] x [G] ÷ 2000 lb/ton
	[BB]	15.00	ppm	[Z] x [D] x 1,000,000 ÷ ([A] x [K] x 60 min/hr)
Ethanol	[CC]	26.74	lb/hr	[S] x (1 - [M])
	[DD]	117.10	tpy	[CC] x [G] ÷ 2000 lb/ton
	[EE]	68.33	ppm	[CC] x [D] x 1,000,000 ÷ ([B] x [K] x 60 min/hr)
Acetaldehyde	[FF]	0.26	lb/hr	[V] x (1 - [N])
	[GG]	1.15	tpy	[FF] x [G] ÷ 2000 lb/ton
	[HH]	0.70	ppm	[FF] x [D] x 1,000,000 ÷ ([C] x [K] x 60 min/hr)
VOC	[II]	27.00	lb/hr	[DD] + [GG]
	[JJ]	118.25	tpy	[II] x [G] ÷ 2000 lb/ton
Controlled Emission Rates				
SO_2	[KK]	0.142	lb/hr	based on 3/26/08 stack test data for outlet from Scrubber 15F401
	[LL]	0.62	tpy	[KK] x [G] ÷ 2000 lb/ton
VOC	[MM]	25.5	lb/hr	based on 3/26/08 stack test data for outlet from Scrubber 15F401
	[NN]	111.69	tpy	[MM] x [G] ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Stack 17 Emissions Summary
Feed, Meal, & Germ Production Operations
Table 3A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Particulate Matter Control Device Emissions [1]		Dryer Process Emissions [2] [4]		Gluten Meal Flash Dryer Natural Gas Combustion [3] [4] [5]		Fiber Flash Dryer Furnace Natural Gas Combustion [6]		RTO Natural Gas Combustion [7]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	9.80	42.94	0	0	0	0	0.45	1.96	0.07	0.33	10.33	45.23
PM_{10}	9.80	42.94	0	0	0	0	0.45	1.96	0.07	0.33	10.33	45.23
$PM_{2.5}$	3.70	16.19	0	0	0	0	0.45	1.96	0.07	0.33	4.22	18.48
SO_2	0	0	4.40	19.27	0	0	0.04	0.15	0.01	0.03	4.44	19.45
NO_x	0	0	0	0	1.80	7.88	3.60	15.77	0.60	2.63	6.00	26.28
VOC	0	0	3.16	13.84	0	0	0.32	1.42	0.05	0.24	3.54	15.49
CO	0	0	9.13	39.98	0	0	2.92	12.80	0.49	2.13	12.54	54.91
GHGs (as CO_2e)	0	0	0	0	3,551	15,553	7,102	31,106	1,184	5,184	11,836	51,843
HAPs												
Total POM	0	0	0	0	1.52E-06	6.67E-06	3.05E-06	1.33E-05	5.08E-07	2.22E-06	5.08E-06	2.22E-05
Acetaldehyde	0	0	0.07	0.29	0	0	0	0	0	0	0.07	0.29
Benzene	0	0	0	0	6.18E-05	2.71E-04	1.24E-04	5.41E-04	2.06E-05	9.02E-05	2.06E-04	9.02E-04
Dichlorobenzene	0	0	0	0	3.53E-05	1.55E-04	7.06E-05	3.09E-04	1.18E-05	5.15E-05	1.18E-04	5.15E-04
Formaldehyde	0	0	0.03	0.14	0	0	4.41E-03	0.02	7.35E-04	3.22E-03	0.04	0.17
Hexane	0	0	0	0	0.05	0.23	0.11	0.46	0.02	0.08	0.18	0.77
Methanol	0	0	0.03	0.12	0	0	0	0	0	0	0.03	0.12
Naphthalene	0	0	0	0	1.79E-05	7.86E-05	3.59E-05	1.57E-04	5.98E-06	2.62E-05	5.98E-05	2.62E-04
Toluene	0	0	0	0	1.00E-04	4.38E-04	2.00E-04	8.76E-04	3.33E-05	1.46E-04	3.33E-04	1.46E-03
Arsenic	0	0	0	0	5.88E-06	2.58E-05	1.18E-05	5.15E-05	1.96E-06	8.59E-06	1.96E-05	8.59E-05
Cadmium	0	0	0	0	3.24E-05	1.42E-04	6.47E-05	2.83E-04	1.08E-05	4.72E-05	1.08E-04	4.72E-04
Chromium	0	0	0	0	4.12E-05	1.80E-04	8.24E-05	3.61E-04	1.37E-05	6.01E-05	1.37E-04	6.01E-04
Cobalt	0	0	0	0	2.47E-06	1.08E-05	4.94E-06	2.16E-05	8.24E-07	3.61E-06	8.24E-06	3.61E-05
Manganese	0	0	0	0	1.12E-05	4.90E-05	2.24E-05	9.79E-05	3.73E-06	1.63E-05	3.73E-05	1.63E-04
Mercury	0	0	0	0	7.65E-06	3.35E-05	1.53E-05	6.70E-05	2.55E-06	1.12E-05	2.55E-05	1.12E-04
Nickel	0	0	0	0	6.18E-05	2.71E-04	1.24E-04	5.41E-04	2.06E-05	9.02E-05	2.06E-04	9.02E-04
TOTAL HAPs	**0.00**	**0.00**	**0.13**	**0.56**	**0.05**	**0.23**	**0.11**	**0.49**	**0.02**	**0.08**	**0.31**	**1.36**

Notes:
[1] Table 3B1 -- Particulate Matter Control Device Emissions
[2] Table 3C -- Co-Product Dryers Controlled Process Emissions
[3] Table 3H -- Gluten Meal Dryer Direct-Fired Furnace (48D101) Natural Gas Combustion Emissions
[4] PM, PM_{10}, and $PM_{2.5}$ have been included with the Particulate Matter Control Device Emissions
[5] SO_2, VOC, CO, and formaldehyde have been included with the Dryer Process Emissions
[6] Table 3I -- Fiber Flash Furnace (21B501) Natural Gas Combustion Emissions
[7] Table 3J -- RTO Gas Combustion Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Feed, Meal, & Germ Production Operations
Table 3B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
3	12U11	Rail Loadout Conveyor	Baghouse	12F40	80	6,000	5,867	0.0101	0.51	2.23	0.0101	0.51	2.23	0.37705	0.0038	0.19	0.84
17	21D501	Fiber Flash Dryer [10]	Scrubber/ RTO/ RTO	21F13/ 48F201/ 48F202	322	[A]	27,781	0.031	7.38	32.32	0.031	7.38	32.32	0.37705	0.0117	2.78	12.19
	21D301	RST Feed Dryer [10]															
	48D101	Gluten Flash Dryer [10]															
	21D401	RST Germ Dryer [10]															
	21F304	Corn Cleanings Receiver [10] [11]	Scrubber/ RTO/ RTO	21F311/ 48F201/ 48F202													
	21D8	Feed Cooler [10]															
	21V125	Feed Loadout Hopper [10] [11]															
	21B501	Fiber Flash Dryer Furnace [10]	None	---													
110	8V121	Feed Storage Bin [10]	Bin Vent	8F1	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
111	8V122	Feed Storage Bin	Bin Vent	8F2	90	2,000	1,920	0.0049	0.08	0.35	0.0049	0.08	0.35	0.37705	0.0018	0.03	0.13
112	8V123	Feed Storage Bin [10]	Bin Vent	8F3	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
113	8V124	Feed Storage Bin [10]	Bin Vent	8F4	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
114	8V62	Meal Storage Bin	Bin Vent	8F62	90	2,000	1,920	0.0049	0.08	0.35	0.0049	0.08	0.35	0.37705	0.0018	0.03	0.13
	8U39, 8U41	Co-Product Loadout Conveyors															
115	8V63	Meal Storage Bin [10]	Bin Vent	8F63	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
116	8V53	Germ Storage Bin [10]	Bin Vent	8F53	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
117	8V54	Germ Storage Bin [10]	Bin Vent	8F54	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
125	AC 23, AC 24	Air Conveying Bins to Loadout	Baghouse	12F39	80	2,500	2,444	0.0100	0.21	0.92	0.0100	0.21	0.92	0.37705	0.0038	0.08	0.35
145	AC8	48D101 Dryer Air Conv. Line to Feed Mill	Baghouse	21F36	80	10,000	9,778	0.0103	0.86	3.77	0.0103	0.86	3.77	0.37705	0.0039	0.32	1.42
444	21G351	Feed Mill [10]	Scrubber	21F312	130	3,000	2,685	0.0089	0.204	0.89	0.0089	0.204	0.89	0.37705	0.0033	0.08	0.34
	21G352	Feed Mill [10]															
	21U314	Feed Milling Loadout Conveyor [10]															
	TOTAL								**9.80**	**42.94**		**9.80**	**42.94**			**3.70**	**16.19**

RST Germ Dryer Discharge Conveyor (21U403) and Rotary Airlock Valves (21D3) are vented to Scrubber 15F401 in the Wet Milling Operations.

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rate for purposes of compliance with 326 IAC 6-3-2 (see Table 3B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The grain loading as well as the PM and PM_{10} lb/hr emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[11] The airflow for this emission unit was accounted for when the original BACT was determined.

[A] Total airflow to Stack 17 consists of the exhaust from the Feed Dryer RTO's, the Fiber Dryer Furnace, and the Wet Mill Scrubber (15F401).
Airflow from the Feed Dryer RTO's and Fiber Furnace is 85,196 acfm @ 322 °F.
Airflow from the Wet Mill Scrubber is 60,000 acfm @ 100 °F. There are no PM_{10} emissions from the wet mill scrubber, only SC_2 and VOC.
Total combined airflow to Stack 17 is set at 147,000 acfm @ 232 °F.
PM_{10} mass emissions are based on the combined emission rate of the the RTO's and Fiber Furnace at 0.015 gr/scf and 57,506 scfm.
The permit limit is expressed in gr/dscf.
The humidity of the exhaust is 0.5169 cu. ft. H_20/cu. ft. wet air, resulting in a limit of 0.031 gr/dscf (27,781 dscfm).

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Feed, Meal, & Germ Production Operations
Table 3B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
3	12U11	Rail Loadout Conveyor	Baghouse	12F40	0.51	2.23	89	Yes
111	8V122	Feed Storage Bin	Bin Vent	8F2	0.08	0.35	6	Yes
114	8V62	Meal Storage Bin	Bin Vent	8F62	0.08	0.35	6	Yes
	8U39, 8U41	Co-Product Loadout Conveyors						
125	AC 23, AC 24	Air Conveying Bins to Loadout	Baghouse	12F39	0.21	0.92	24	Yes
145	AC8	48D101 Dryer Air Conv. Line to Feed Mill	Baghouse	21F36	0.86	3.77	194	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Co-Product Dryers Limited/Controlled Process Emissions Summary
Feed, Meal, & Germ Production Operations
Table 3C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Fiber Flash Dryer Process Emissions [1]		RST Feed Dryer Process Emissions [2]		RST Germ Dryer Process Emissions [3]		Gluten Meal Flash Dryer Process Emissions [4]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy [5]
PM	Included in control device emission calculations --- see Table 3B									
PM_{10}	Included in control device emission calculations --- see Table 3B									
$PM_{2.5}$	Included in control device emission calculations --- see Table 3B									
SO_2	based on BACT determination for SSM 157-22808-00003								4.40	19.27
CO	4.94	21.64	3.28	14.37	0	0	0.91	3.97	9.13	39.98
VOC	based on BACT determination for SSM 157-22808-00003								3.16	13.84
HAPs										
Acetaldehyde	0.03	0.11	0.02	0.08	0.00	0.01	0.02	0.10	0.07	0.29
Formaldehyde	0.02	0.08	0.01	0.06	0	0	0.00	0.01	0.03	0.14
Methanol	0	0	0	0	0	0	0.03	0.12	0.03	0.12
TOTAL HAPs	0.04	0.19	0.03	0.13	0.00	0.01	0.05	0.23	0.13	0.56

Notes:
[1] Table 3D -- Fiber Flash Dryer (21D501) Process Emissions
[2] Table 3E -- RST Feed Dryer (21D301) Process Emissions
[3] Table 3F -- RST Germ Dryer (21D401) Process Emissions
[4] Table 3G -- Gluten Meal Flash Dryer (48D101) Process Emissions
[5] Total (tpy) = Total (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Fiber Flash Dryer (21D501) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	300	°F	design value
		[L]	760	°R	[H] + 460°F
	Exhaust Rate	[M]	20,349	acfm	based on test data
		[N]	14,137	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.03287	gr/dscf	based on test data for similar processes
		[P]	3.98	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	17.45	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	122.40	ppm	based on test data for similar processes
		[S]	17.25	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	75.54	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	80.16	ppm	based on test data for similar processes
		[V]	4.94	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	21.64	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	53.85	ppm	based on test data for similar processes
		[Y]	5.45	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	23.89	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	5.2	ppm	based on test data for similar processes
		[BB]	0.50	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	2.21	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	5.6	ppm	based on test data for similar processes
		[EE]	0.37	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	1.62	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	6.33	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	27.71	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.96	lb/hr	[P] x (1 - [LL])
		[TT]	4.19	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	1.72	lb/hr	[S] x (1 - [MM])
		[VV]	7.55	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	4.94	lb/hr	[V] x (1 - [NN])
		[XX]	21.64	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	4.36	lb/hr	[Y] x (1 - [OO])
		[ZZ]	19.11	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.50	lb/hr	[BB] x (1 - [PP])
		[BBB]	2.21	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.37	lb/hr	[EE] x (1 - [QQ])
		[DDD]	1.62	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	5.24	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	22.93	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.76	lb/hr	[SS] x (1 - [III])
		[QQQ]	3.35	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	1.72	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	7.55	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	4.94	lb/hr	[WW] x (1 - [KKK])
		[UUU]	21.64	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.22	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.96	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.03	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.11	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.02	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.08	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.26	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	1.15	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
RST Feed Dryer (21D301) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	13,096	acfm	based on test data
		[N]	9,878	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.03287	gr/dscf	based on test data for similar processes
		[P]	2.78	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	12.19	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	122.40	ppm	based on test data for similar processes
		[S]	12.05	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	52.78	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	76.15	ppm	based on test data for similar processes
		[V]	3.28	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	14.37	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	53.84	ppm	based on test data for similar processes
		[Y]	3.81	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	16.69	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	5.2	ppm	based on test data for similar processes
		[BB]	0.35	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	1.54	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	5.6	ppm	based on test data for similar processes
		[EE]	0.26	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	1.13	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	4.42	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	19.36	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.67	lb/hr	[P] x (1 - [LL])
		[TT]	2.93	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	1.21	lb/hr	[S] x (1 - [MM])
		[VV]	5.28	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	3.28	lb/hr	[V] x (1 - [NN])
		[XX]	14.37	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	3.05	lb/hr	[Y] x (1 - [OO])
		[ZZ]	13.35	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.35	lb/hr	[BB] x (1 - [PP])
		[BBB]	1.54	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.26	lb/hr	[EE] x (1 - [QQ])
		[DDD]	1.13	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	3.66	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	16.02	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.53	lb/hr	[SS] x (1 - [III])
		[QQQ]	2.34	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	1.21	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	5.28	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	3.28	lb/hr	[WW] x (1 - [KKK])
		[UUU]	14.37	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.15	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.67	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.02	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.08	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.01	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.06	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.18	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.80	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
RST Germ Dryer (21D401) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	12,057	acfm	based on test data
		[N]	9,094	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.05	gr/dscf	based on test data for similar processes
		[P]	3.90	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	17.07	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	54.55	ppm	based on test data for similar processes
		[S]	4.94	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	21.66	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	0.00	ppm	based on test data for similar processes
		[V]	0.00	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	0.00	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	7.06	ppm	based on test data for similar processes
		[Y]	0.46	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	2.01	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	0.44	ppm	based on test data for similar processes
		[BB]	0.03	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	0.12	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	0.0	ppm	based on test data for similar processes
		[EE]	0.00	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	0.00	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	0.49	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	2.13	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.94	lb/hr	[P] x (1 - [LL])
		[TT]	4.10	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	0.49	lb/hr	[S] x (1 - [MM])
		[VV]	2.17	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	0.00	lb/hr	[V] x (1 - [NN])
		[XX]	0.00	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	0.37	lb/hr	[Y] x (1 - [OO])
		[ZZ]	1.61	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.03	lb/hr	[BB] x (1 - [PP])
		[BBB]	0.12	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.00	lb/hr	[EE] x (1 - [QQ])
		[DDD]	0.00	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	0.40	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	1.73	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.75	lb/hr	[SS] x (1 - [III])
		[QQQ]	3.28	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	0.49	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	2.17	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	0.00	lb/hr	[WW] x (1 - [KKK])
		[UUU]	0.00	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.02	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.08	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.00	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.01	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.00	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.00	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.02	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.09	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
Gluten Meal Flash Dryer (48D101) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3G

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	19,339	acfm	based on test data
		[N]	14,587	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.15	gr/dscf	based on test data for similar processes
		[P]	18.75	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	82.15	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	63.70	ppm	based on test data for similar processes
		[S]	9.26	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	40.56	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	14.25	ppm	based on test data for similar processes
		[V]	0.91	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	3.97	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	25.81	ppm	based on test data for similar processes
		[Y]	2.70	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	11.81	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	4.48	ppm	based on test data for similar processes
		[BB]	0.45	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	1.96	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	0.4	ppm	based on test data for similar processes
		[EE]	0.03	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	0.12	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	9.5	ppm	based on test data for similar processes
		[HH]	0.69	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	3.02	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	3.86	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	16.92	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	4.50	lb/hr	[P] x (1 - [LL])
		[TT]	19.72	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	0.93	lb/hr	[S] x (1 - [MM])
		[VV]	4.06	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	0.91	lb/hr	[V] x (1 - [NN])
		[XX]	3.97	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	2.16	lb/hr	[Y] x (1 - [OO])
		[ZZ]	9.45	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.45	lb/hr	[BB] x (1 - [PP])
		[BBB]	1.96	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.03	lb/hr	[EE] x (1 - [QQ])
		[DDD]	0.12	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.55	lb/hr	[HH] x (1 - [RR])
		[FFF]	2.42	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	3.19	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	13.95	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	3.60	lb/hr	[SS] x (1 - [III])
		[QQQ]	15.77	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	0.93	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	4.06	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	0.91	lb/hr	[WW] x (1 - [KKK])
		[UUU]	3.97	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.11	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.47	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.02	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.10	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.00	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.01	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.03	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.12	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.16	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.70	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
Gluten Meal Dryer Direct-Fired Furnace (48D101) Natural Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3H

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	30
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.029

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	0.06	lb/MMBtu [5]	1.80	7.88
CO	Included in process emission calculations --- see Table 3C			
PM	Included in control device emission calculations --- see Table 3B			
SO_2	Included in process emission calculations --- see Table 3C			
VOC	Included in process emission calculations --- see Table 3C			
CO_2	120,000	lb/MMscf [6]	3,529	15,459
CH_4	2.3	lb/MMscf [6]	0.07	0.30
N_2O	2.2	lb/MMscf [6]	0.06	0.28
GHGs [7]			3,530	15,459
CO_2e [8]			3,551	15,553
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [9]	7.1E-07	3.1E-06
Fluoranthene	3.0E-06	lb/MMscf [9]	8.8E-08	3.9E-07
Fluorene	2.8E-06	lb/MMscf [9]	8.2E-08	3.6E-07
Phenanathrene	1.7E-05	lb/MMscf [9]	5.0E-07	2.2E-06
Pyrene	5.0E-06	lb/MMscf [9]	1.5E-07	6.4E-07
TOTAL POM			1.5E-06	6.7E-06
Benzene	2.1E-03	lb/MMscf [9]	6.2E-05	2.7E-04
Dichlorobenzene	1.2E-03	lb/MMscf [9]	3.5E-05	1.5E-04
Formaldehyde	Included in process emission calculations --- see Table 3C			
Hexane	1.8E+00	lb/MMscf [9]	5.3E-02	2.3E-01
Naphthalene	6.1E-04	lb/MMscf [9]	1.8E-05	7.9E-05
Toluene	3.4E-03	lb/MMscf [9]	1.0E-04	4.4E-04
Arsenic	2.0E-04	lb/MMscf [10]	5.9E-06	2.6E-05
Cadmium	1.1E-03	lb/MMscf [10]	3.2E-05	1.4E-04
Chromium	1.4E-03	lb/MMscf [10]	4.1E-05	1.8E-04
Cobalt	8.4E-05	lb/MMscf [10]	2.5E-06	1.1E-05
Manganese	3.8E-04	lb/MMscf [10]	1.1E-05	4.9E-05
Mercury	2.6E-04	lb/MMscf [10]	7.6E-06	3.3E-05
Nickel	2.1E-03	lb/MMscf [10]	6.2E-05	2.7E-04
TOTAL HAPs			0.05	0.23

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr)÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf)÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr)÷ 2000 lb/ton
[5] Based on BACT determination
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[8] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[9] AP-42, Table 1.4-3, only detectable values used
[10] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Fiber Flash Furnace (21B501) Natural Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3I

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Exhaust Rate (scfm)	13402
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	60
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.059

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.06	lb/MMBtu [5]	3.60	15.77
CO			50	ppm [6]	2.92	12.80
PM			7.6	lb/MMscf [7]	0.45	1.96
SO_2			0.6	lb/MMscf [7]	0.04	0.15
VOC			5.5	lb/MMscf [7]	0.32	1.42
CO_2			120,000	lb/MMscf [7]	7,059	30,918
CH_4			2.3	lb/MMscf [7]	0.14	0.59
N_2O			2.2	lb/MMscf [7]	0.13	0.57
GHGs [8]					7,059	30,919
CO_2e [9]					7,102	31,106
HAPs						
	POM					
		2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	1.4E-06	6.2E-06
		Fluoranthene	3.0E-06	lb/MMscf [10]	1.8E-07	7.7E-07
		Fluorene	2.8E-06	lb/MMscf [10]	1.6E-07	7.2E-07
		Phenanathrene	1.7E-05	lb/MMscf [10]	1.0E-06	4.4E-06
		Pyrene	5.0E-06	lb/MMscf [10]	2.9E-07	1.3E-06
		TOTAL POM			3.0E-06	1.3E-05
	Benzene		2.1E-03	lb/MMscf [10]	1.2E-04	5.4E-04
	Dichlorobenzene		1.2E-03	lb/MMscf [10]	7.1E-05	3.1E-04
	Formaldehyde		7.5E-02	lb/MMscf [10]	4.4E-03	1.9E-02
	Hexane		1.8E+00	lb/MMscf [10]	1.1E-01	4.6E-01
	Naphthalene		6.1E-04	lb/MMscf [10]	3.6E-05	1.6E-04
	Toluene		3.4E-03	lb/MMscf [10]	2.0E-04	8.8E-04
	Arsenic		2.0E-04	lb/MMscf [11]	1.2E-05	5.2E-05
	Cadmium		1.1E-03	lb/MMscf [11]	6.5E-05	2.8E-04
	Chromium		1.4E-03	lb/MMscf [11]	8.2E-05	3.6E-04
	Cobalt		8.4E-05	lb/MMscf [11]	4.9E-06	2.2E-05
	Manganese		3.8E-04	lb/MMscf [11]	2.2E-05	9.8E-05
	Mercury		2.6E-04	lb/MMscf [11]	1.5E-05	6.7E-05
	Nickel		2.1E-03	lb/MMscf [11]	1.2E-04	5.4E-04
TOTAL HAPs					0.11	0.49

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (ppm) x Exhaust Rate (scfm) x 28 lb/lb-mol x 60 min/hr ÷ (385.3 scf/lb-mol x 1000000)
c) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) / 2000 lb/ton
[5] Based on BACT determination
[6] Based on 50 ppm in combustion gases from gas combustion in RTO
[7] AP-42, Table 1.4-2, N_2O uncontrolled
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
RTO Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3J

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Exhaust Rate (scfm)	2234
Fiber Flash Furnace Heat Input (MMBtu/hr) [1] (2 burners @ 5 MMBtu/hr each)	10
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.010

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.06	lb/MMBtu [5]	0.60	2.63
CO			50	ppm [6]	0.49	2.13
PM			7.6	lb/MMscf [7]	0.07	0.33
SO_2			0.6	lb/MMscf [7]	0.01	0.03
VOC			5.5	lb/MMscf [7]	0.05	0.24
CO_2			120,000	lb/MMscf [7]	1,176	5,153
CH_4			2.3	lb/MMscf [7]	0.02	0.10
N_2O			2.2	lb/MMscf [7]	0.02	0.09
GHGs [8]					1,177	5,153
CO_2e [9]					1,184	5,184
HAPs						
	POM					
		2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	2.4E-07	1.0E-06
		Fluoranthene	3.0E-06	lb/MMscf [10]	2.9E-08	1.3E-07
		Fluorene	2.8E-06	lb/MMscf [10]	2.7E-08	1.2E-07
		Phenanathrene	1.7E-05	lb/MMscf [10]	1.7E-07	7.3E-07
		Pyrene	5.0E-06	lb/MMscf [10]	4.9E-08	2.1E-07
		TOTAL POM			5.1E-07	2.2E-06
	Benzene		2.1E-03	lb/MMscf [10]	2.1E-05	9.0E-05
	Dichlorobenzene		1.2E-03	lb/MMscf [10]	1.2E-05	5.2E-05
	Formaldehyde		7.5E-02	lb/MMscf [10]	7.4E-04	3.2E-03
	Hexane		1.8E+00	lb/MMscf [10]	1.8E-02	7.7E-02
	Naphthalene		6.1E-04	lb/MMscf [10]	6.0E-06	2.6E-05
	Toluene		3.4E-03	lb/MMscf [10]	3.3E-05	1.5E-04
	Arsenic		2.0E-04	lb/MMscf [11]	2.0E-06	8.6E-06
	Cadmium		1.1E-03	lb/MMscf [11]	1.1E-05	4.7E-05
	Chromium		1.4E-03	lb/MMscf [11]	1.4E-05	6.0E-05
	Cobalt		8.4E-05	lb/MMscf [11]	8.2E-07	3.6E-06
	Manganese		3.8E-04	lb/MMscf [11]	3.7E-06	1.6E-05
	Mercury		2.6E-04	lb/MMscf [11]	2.5E-06	1.1E-05
	Nickel		2.1E-03	lb/MMscf [11]	2.1E-05	9.0E-05
TOTAL HAPs					0.02	0.08

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (ppm) x Exhaust Rate (scfm) x 28 lb/lb-mol x 60 min/hr÷ (385.3 scf/lb-mol x 1000000)
c) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) / 2000 lb/ton
[5] Based on BACT determination
[6] Based on CO concentration in combustion gases from gas combustion in RTO
[7] AP-42, Table 1.4-2, N_2O uncontrolled
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Syrup Refining Operations Emission Summary
Syrup Refining Operations
Table 4A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Particulate Matter Control Device Emissions [1]		SO_2/VOC Control Device Emissions [2]		HCl Control Device Emissions [3]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	0.36	1.58	0	0	0	0	0.36	1.58
PM_{10}	0.36	1.58	0	0	0	0	0.36	1.58
$PM_{2.5}$	0.21	0.90	0	0	0	0	0.21	0.90
SO_2	0	0	16.50	72.26	0	0	16.50	72.26
VOC	0	0	1.00	4.40	0	0	1.00	4.40
HAPs								
HCl	0	0	0	0	0.02	0.07	0.02	0.07

Notes:
[1] Table 4B1 -- Particulate Matter Control Device Emissions
[2] Table 4C --SO_2/VOC Control Device Emissions
[3] Table 4D -- HCl Control Device Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Syrup Refining Operations
Table 4B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [7]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]		gr/dscf [8]	lb/hr [9]	TPY [5]
123	9V31	Filteraid Storage Silo	Bin Vent	9F31	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
124	9V30	Powdered Carbon Storage Silo	Baghouse	9F30	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
129	09C27 & 18C18	Filteraid Conveying System to Precoat Makeup Tank	Baghouse	18F118	80	350	342	0.0102	0.03	0.13	0.0102	0.03	0.13	0.56962	0.0058	0.02	0.07
149	9V144	Soda Ash Storage Tank	Eductor	9E1	90	1,550	1,488	0.0212	0.27	1.18	0.0212	0.27	1.18	0.56962	0.0121	0.15	0.67
	TOTAL								**0.36**	**1.58**		**0.36**	**1.58**			**0.21**	**0.90**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68)÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ (60 min/hr x Design Flow (dscfm))
[4] This is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 4B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Syrup Refining Operations
Table 4B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
123	9V31	Filteraid Storage Silo	Bin Vent	9F31	0.03	0.13	1	Yes
124	9V30	Powdered Carbon Storage Silo	Baghouse	9F30	0.03	0.13	1	Yes
129	09C27 & 18C18	Filteraid Conveying System to Precoat Makeup Tank	Baghouse	18F118	0.03	0.13	1	Yes
149	9V144	Soda Ash Storage Tank	Eductor	9E1	0.27	1.18	34	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
SO_2/VOC Control Device Emission Calculations
Syrup Refining Operations
Table 4C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		SO_2 Emission Rates			VOC Emission Rates (as Ethanol)		
						dacfm [1]	dscfm [2]	ppm [1]	lb/hr [3]	TPY [4]	ppm [1]	lb/hr [3]	TPY [4]
320	18V312	Acid Reject Flash Chamber [5]	None	---	212	1,940	1,524	1086	16.50	72.26	92	1.00	4.40
	TOTAL								**16.50**	**72.26**		**1.00**	**4.40**

Molecular Weights (lb/lb-mol):
SO_2: 64
Ethanol: 46

The Jet Conversion Flash Chamber (18V413) and Syrup Pre-Evaporator (14X20) are vented to Scrubber 15F401 in the Wet Milling Operations.
The Jet Conversion Flash Chamber (18V413) is typically used during the production of maltodextrins; however, the Acid Reject Flash Chamber (18V312) could be used.

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] Emission Rate (lb/hr) = Emission Rate (ppm) x Design Flow (scfm) x Molecular Weight (lb/lb-mol) x 60 min/hr ÷ (385.3 scf/lb-mol x 1,000,000)
[4] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
HCl Control Device Emission Calculations
Syrup Refining Operations
Table 4D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element	Data	Value		Reference/Calculation
Uncontrolled HCl Emission Rates	[A]	144.02	lb/yr	TANKS 4.09a calculation for Sagamore HCl Tank (09V101)
	[B]	0.02	lb/hr	[A] ÷ 8760 hr/yr
	[C]	0.07	tpy	[A] ÷ 2000 lb/ton
Control Efficiency of Scrubber	[D]	99.80%		design value
Controlled HCl Emission Rates	[E]	0.0000	lb/hr	[B] x (1 - [D])
	[F]	0.0001	tpy	[C] x (1 - [D])

Appendix A: Emissions Calculations
Starch Modification Operations Emission Summary
Starch Modification Operations
Table 5A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant		Particulate Matter Control Device Emissions [1]		Starch Reactors Process Emissions [2]		Starch Modification Process and Dryer Operations Emissions [3]		Non-Propylene Oxide Starch Reactor Process Emissions [4] [5]		Total	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM		0.17	0.74	0	0	0	0	0	0	0.17	0.74
PM_{10}		0.17	0.74	0	0	0	0	0	0	0.17	0.74
$PM_{2.5}$		0.10	0.42	0	0	0	0	0	0	0.10	0.42
SO_2		0	0	0	0	0	0	2.45	10.75	2.45	10.75
VOC		0	0	1.98	8.69	4.11	18.00	8.12	35.57	14.21	62.26
HAPs											
	Propylene Oxide	0	0	1.98	8.69	4.11	18.00	0	0	6.09	26.69
	Chloroform	0	0	0	0	0	0	6.45	28.27	6.45	28.27
	Methanol	0	0	0	0	0	0	0.22	0.95	0.22	0.95

Notes:
[1] Table 5B1 -- Particulate Matter Control Device Emissions
[2] Table 5C -- Starch Reactors VOC/Propylene Oxide Emissions
[3] Table 5D -- Starch Modification Process and Dryer Operations VOC/Propylene Oxide Emissions
[4] Table 5E -- Non-Propylene Oxide Starch Reactor Limited SO_2 Emissions
[5] Table 5F -- Non-Propylene Oxide Starch Reactor VOC and HAP Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emissions
Starch Modification Operations
Table 5B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [7]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]		gr/dscf [8]	lb/hr [9]	TPY [5]
CHEMICAL STORAGE AND RAW STARCH RECEIVING																	
64	45V250	Sodium Sulfate Storage Bin	Bin Vents	45F25/45F25A	80	1500	1467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.56962	0.0059	0.07	0.32
68	9V103	Tri-Polyphosate Bin	Bin Vent	9F103	60	500	508	0.0092	0.04	0.18	0.0092	0.04	0.18	0.56962	0.0052	0.02	0.10
	TOTAL								**0.17**	**0.74**		**0.17**	**0.74**			**0.10**	**0.42**

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68)÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ (60 min/hr x Design Flow (dscfm))
[4] This is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 5B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Modification Operations
Table 5B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
64	45V250	Sodium Sulfate Storage Bin	Bin Vents	45F25/45F25A	0.13	0.57	12	Yes
68	9V103	Tri-Polyphosate Bin	Bin Vent	9F103	0.04	0.18	2	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Reactors VOC/Propylene Oxide Emissions
Starch Modification Operations
Table 5C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Units: 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281
45V292, 45V293, 45V294, 45V295, 45V296

Data Element			Data	Value		Reference/Calculation
Number of Reactors			[A]	18		design value, per PSD/SSM #18832, as one unit
Acid-Killed Starch						
	Production Rate of Commercial Weight (cw) Propylated Starch		[B]	420	MMlbs/yr	design value
	VOC/PO Emission Rates					
		Production (to scrubber)	[C]	65	lb/100,000 lbs	design value (95% control efficiency = 3.25 lb/100,000 lbs)
			[D]	273000	lbs/yr	[C] x [B] x 10
			[E]	136.50	tpy	[D] ÷ 2000 lb/ton
		Reactor Venting (post-production)	[F]	0.1	lb/100,000 lbs	design value
			[G]	420	lbs/yr	[F] x [B] x 10
			[H]	0.21	tpy	[G] ÷ 2000 lb/ton
Non-Acid-Killed Starch						
	Production Rate of Commercial Weight (cw) Propylated Starch		[I]	30	MMlbs/yr	design value
	VOC/PO Emission Rates					
		Production (to scrubber)	[J]	120	lb/100,000 lbs	design value (95% control efficiency = 6 lb/100,000 lbs)
			[K]	36000	lbs/yr	[J] x [I] x 10
			[L]	18.00	tpy	[K] ÷ 2000 lb/ton
		Reactor Venting (post-production)	[M]	5	lb/100,000 lbs	design value
			[N]	1500	lbs/yr	[M] x [I] x 10
			[O]	0.75	tpy	[N] ÷ 2000 lb/ton
Limited Uncontrolled VOC/PO Emissions						
	Total VOC/PO Emissions to Scrubber		[P]	154.50	tpy	[E] + [L]
	Total VOC/PO Emissions from Reactor Vents		[Q]	0.96	tpy	[H] + [O]
	Total Limited Uncontrolled VOC/PO Emissions from All Reactors		[R]	155.46	tpy	[P] + [Q]
Limited Controlled VOC/PO Emissions						
	Scrubber VOC/PO Removal Efficiency		[S]	95%		design value
	Total VOC/PO Emissions from Scrubber		{T]	7.73	tpy	[P] x (1 - [S])
	Total Limited Controlled VOC/PO Emissions from All Reactors		[U]	8.69	tpy	[T] + [Q]

The combine propylene oxide input for non-acid kill starch production has been limited to 1,500 tons (3,000,000 pounds) per year.
The VOC/PO emission rate for non-acid kill starch production before control equals 37,500 pounds per year.
A minimum of 98.75% of the propylene oxide is consumed during the production of non-acid kill starch.

Appendix A: Emissions Calculations
Starch Modification Process [1] and Dryer Operations VOC/Propylene Oxide Emissions
Starch Modification Operations
Table 5D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Operating Hours		[A]	8,760	hr/yr	design value
Acid-Killed Starch					
	Production Rate of Commercial Weight Propylated Starch	[B]	420	MMlbs/yr	design value
	VOC/PO Emission Rates from Flash Dryers (40D1, 40D20, 43D71); Belt Dryers (16D4, 16D5); Roll Dryers (41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, 19D303); Spray Dryers (30D1, 46D200)	[C]	6	lb/100,000 lbs	design value
		[D]	25200	lbs/yr	[C] x [B] x 10
		[E]	12.60	tpy	[D] ÷ 2000 lb/ton
Non-Acid-Killed Starch					
	Production Rate of Commercial Weight Propylated Starch	[F]	30	MMlbs/yr	design value
	VOC/PO Emission Rates from Spray Dryers Nos. 1 - 2 Feed Tanks and Starch Washing Tanks Aspiration System	[G]	16	lb/100,000 lbs	design value
		[H]	4800	lbs/yr	[G] x [F] x 10
		[I]	2.40	tpy	[H] ÷ 2000 lb/ton
	VOC/PO Emission Rates from Spray Dryers Nos. 1 - 2 (30D1, 46D200)	[J]	20	lb/100,000 lbs	design value
		[K]	6000	lbs/yr	[J] x [F] x 10
		[L]	3.00	tpy	[K] ÷ 2000 lb/ton
Total VOC/PO Emissions from Process/Dryer Operations		[M]	18.00	tpy	[E] + [I] + [L]
		[N]	4.11	lb/hr	[M] x 2000 lb/ton ÷ [A]

Notes:

[1] The emissions calculated in this table, in addition to the dryers listed, include emissions from the following process equipment:
Flash 1 Centrifuge (40Y1); Flash 1 Hold Tanks (40V1, 40V50); Flash 1 Mixer (40U2); Flash 2 Hold Tanks (40V20, 40V21); Flash 2 Filters (40F51 - 40F54); Flash 2 Air Release Tanks (40V15 and 40V16); Flash 2 Mixer (40U23); Flash 3 Hold Tanks (43V71, 43V72); Flash 3 Feed Tank (43V73); Flash 3 Filters (43F71, 43F72, 43F73); Flash 3 Air Release Tanks (43V85, 43V86); Flash 3 Mixer (43U74); Spray Dryer 1 Feed Tanks (30V1, 30V2); Spray Dryer 1 Process Tanks (40V11, 40V12, 40V14); Spray Dryer 2 Feed Tank (46V297); Spray Dryer 2 Sweco Tank (46V201); Spray Dryer 2 Surge Tank (46V213); Spray Dryer 2 Under Flow Tank (46V204); Belt Dryer Feed Tanks (45V117 - 45V120)

Appendix A: Emissions Calculations
Starch Reactors (Acid-Thinned Starch Without Peroxide) Limited SO2 Emissions
Starch Modification Operations
Table 5E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Units: 45V115, 45V116, and 45V222

Data Element	Data	Value		Reference/Calculation
Operating Hours	[A]	8,760	hr/yr	design value
Production Rate of Commercial Weight Starch	[B]	50	MMlbs/yr	design value
SO_2 Emission Rates	[C]	43	lb/100,000 lbs	design value
	[D]	21500	lbs/yr	[C] x [B] x 10
	[E]	10.75	tpy	[D] ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Non-Propylene Oxide Reactors/Oxidized Starch Reactors VOC and HAP Emissions
Starch Modification Operations
Table 5F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Units: 45V115, 45V116, 45V222, 18V174, 18V175, 18V179, 18V173, 18V178, and 18V180

Data Element		Data Designation	Value		Reference/Calculation
Molecular Weights					
	Methanol	[A]	32	lb-lb/mol	
	Ethanol	[B]	46	lb-lb/mol	
	1-Propanol	[C]	60	lb-lb/mol	
	Ethyl Acetate	[D]	88	lb-lb/mol	
	Chloroform	[E]	119	lb-lb/mol	
	1-Butanol	[F]	74	lb-lb/mol	
Molar Volumetric Gas Constant		[G]	385.3	ft^3/lb-mol	constant based on 68°F standard temperature
Exhaust Gas Average Temperature		[H]	68.3	F	as measured during 2/13/09 test
		[I]	20.17	C	([H] - 32) x 5/9
Exhaust Gas Average Moisture		[J]	1.75	%	as measured during 2/13/09 test
Exhaust Gas Average Flow Rate		[K]	1710.0	acfm	as measured during 2/13/09 test
		[L]	1709.0	scfm	[K] x (460 F + 68 F)÷ (460 F + [H])
		[M]	1679.1	dscfm	[L] x (1 - ([J]÷ 100))
Test (Batch) Time		[N]	606.0	minutes	2/13/09 test duration
Emission Rates					
	Methanol	[O]	6.07	ppmdv	average value during 2/13/09 test
		[P]	0.006	lb/batch	[O] x [M] x [A] x [N]÷ ([G] x 1000000)
	Ethanol	[Q]	2.27	ppmdv	average value during 2/13/09 test
		[R]	0.003	lb/batch	[Q] x [M] x [B] x [N]÷ ([G] x 1000000)
	1-Propanol	[S]	3.04	ppmdv	average value during 2/13/09 test
		[T]	0.005	lb/batch	[S] x [M] x [C] x [N]÷ ([G] x 1000000)
	Ethyl Acetate	[U]	2.78	ppmdv	average value during 2/13/09 test
		[V]	0.007	lb/batch	[U] x [M] x [D] x [N]÷ ([G] x 1000000)
	Chloroform	[W]	47.5	ppmdv	average value during 2/13/09 test
		[X]	0.169	lb/batch	[W] x [M] x [E] x [N]÷ ([G] x 1000000)
	1-Butanol	[Y]	1.48	ppmdv	average value during 2/13/09 test
		[Z]	0.003	lb/batch	[Y] x [M] x [F] x [N]÷ ([G] x 1000000)
	Total VOC	[AA]	0.194	lb/batch	[P] + [R] + [T] + [V] + [X] + [Z]
Chloroform Measured in Slurry at End of Batch		[BB]	3.89	lb/batch	as measured during 2/13/09 test
Estimates of Other Species in Slurry at End of Batch					
	Methanol	[CC]	37.714	lb/batch	[P] ÷ [AA] x [BB]
	Ethanol	[DD]	20.274	lb/batch	[R] ÷ [AA] x [BB]
	1-Propanol	[EE]	35.415	lb/batch	[T] ÷ [AA] x [BB]
	Ethyl Acetate	[FF]	47.500	lb/batch	[V] ÷ [AA] x [BB]
	1-Butanol	[GG]	21.265	lb/batch	[Z] ÷ [AA] x [BB]
Chloroform Measured in Filtrate after Slurry is Filtered		[HH]	0.275	lb/batch	as measured during 2/13/09 test
Estimates of Other Species in Filtrate after Slurry is Filtered					
	Methanol	[II]	29.944	lb/batch	[P] ÷ [AA] x [HH]
	Ethanol	[JJ]	16.098	lb/batch	[R] ÷ [AA] x [HH]
	1-Propanol	[KK]	28.119	lb/batch	[T] ÷ [AA] x [HH]
	Ethyl Acetate	[LL]	37.714	lb/batch	[V] ÷ [AA] x [HH]
	1-Butanol	[MM]	16.884	lb/batch	[Z] ÷ [AA] x [HH]
Total Emitted (Reaction + Drying)					
	Chloroform	[NN]	3.784	lb/batch	[X] + [BB] - [HH]
	Methanol	[OO]	7.776	lb/batch	[P] + [CC] - [II]
	Ethanol	[PP]	4.180	lb/batch	[R] + [DD] - [JJ]
	1-Propanol	[QQ]	7.302	lb/batch	[T] + [EE] - [KK]
	Ethyl Acetate	[RR]	9.793	lb/batch	[V] + [FF] - [LL]
	1-Butanol	[SS]	4.384	lb/batch	[Z] + [GG] - [MM]
Test Batch Size		[TT]		lb. comm. wt.	as measured during 2/13/09 test
Production Batch Size (per reactor)		[UU]		lb. comm. wt.	design
Emission Factors					
	Chloroform	[VV]		lb/100000 lbs. comm. wt.	[NN] x [UU] ÷ [TT]
	Methanol	[WW]		lb/100000 lbs. comm. wt.	[OO] x [UU] ÷ [TT]
	Ethanol	[XX]		lb/100000 lbs. comm. wt.	[PP] x [UU] ÷ [TT]
	1-Propanol	[YY]		lb/100000 lbs. comm. wt.	[QQ] x [UU] ÷ [TT]
	Ethyl Acetate	[ZZ]		lb/100000 lbs. comm. wt.	[RR] x [UU] ÷ [TT]
	1-Butanol	[AAA]		lb/100000 lbs. comm. wt.	[SS] x [UU] ÷ [TT]
	Total VOC	[BBB]		lb/100000 lbs. comm. wt.	[VV] + [WW] + [XX] + [YY] + [ZZ] + [AAA]
Calculated Annual Emissions					
	No. of Reactors	[CCC]	9		design
	Batch Cycle Time (per reactor)	[DDD]		hours	design (see attached batch schedule)
	Hours/12-Month Period	[EEE]	8760	hours	design
	Cycles Per 12-Month Period	[FFF]		cycles	[EEE] ÷ [DDD] x [CCC]
	Total Production Per 12-Month Period	[GGG]		lbs. comm. wt.	[FFF] x [UU]
		[HHH]		tons comm. wt.	[GGG] ÷ 2000 lb/ton
	VOC Multiplier	[III]	1.1		factor used to account for any unaccounted VOC species
	Emission Rate				
		[JJJ]	56531.1	lb/yr	([GGG] ÷ [UU]) x [VV]
	Chloroform	[KKK]	28.3	TPY	[JJJ] ÷ 2000 lb/ton
		[LLL]	3.1	TPY per reactor	[KKK] ÷ [CCC]
		[MMM]	1893.9	lb/yr	([GGG] ÷ [UU]) x [WW]
	Methanol	[NNN]	0.9	TPY	[MMM] ÷ 2000 lb/ton
		[OOO]	0.1	TPY per reactor	[NNN] ÷ [CCC]
		[PPP]	71142.0	lb/yr	([GGG] ÷ [UU]) x [BBB] x [III]
	VOC	[QQQ]	35.6	TPY	[PPP] ÷ 2000 lb/ton
		[RRR]	4.0	TPY per reactor	[QQQ] ÷ [CCC]

Appendix A: Emissions Calculations
Particulate Matter Control Device Emissions
Starch Reaction Operations
Table 6A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
DRY STARCH REACTION SYSTEM																	
236/355	33V1	Starch Feed Bin [10] [11]	Bin Vent	33F1	70	4,200	4,184	0.0081	0.29	1.27	0.0081	0.29	1.27	0.56962	0.0046	0.17	0.72
237/355	33V2	Starch Feed Bin [10] [11]	Bin Vent	33F2	70	4,200	4,184	0.0081	0.29	1.27	0.0081	0.29	1.27	0.56962	0.0046	0.17	0.72
238	33R1	Low Pressure Dry Starch Reactor [10] [11]	Baghouses	33F101/33F102	100	1,200	1,131	0.0080	0.078	0.34	0.0080	0.078	0.34	0.56962	0.0046	0.04	0.19
239	33V5	Catalyst Storage Bin [10] [11]	Bin Vent	33F5	70	500	498	0.0080	0.034	0.15	0.0080	0.034	0.15	0.56962	0.0045	0.02	0.08
240	33R2	High Pressure Dry Starch Reactor [12]	Baghouses	33F201/33F202	100	1,200	1,131	0.0082	0.08	0.35	0.0082	0.08	0.35	0.56962	0.0047	0.05	0.20
241/361	50V61	Reactor Surge Bin	Bin Vent	50F161	160	1,600	1,363	0.0094	0.11	0.48	0.0094	0.11	0.48	0.56962	0.0054	0.06	0.27
242/361	50V62	Reactor Surge Bin	Bin Vent	50F162	160	1,600	1,363	0.0094	0.11	0.48	0.0094	0.11	0.48	0.56962	0.0054	0.06	0.27
243/355	50F48	Dry Starch Product Screening Rec. [12]	Baghouse	50F48	70	1,000	996	0.0094	0.07	0.31	0.0094	0.07	0.31	0.56962	0.0047	0.04	0.17
	50G1	Reactor 2 Mill [12]															
244/355	33V42	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F42	70	8,000	7,970	0.0081	0.55	2.41	0.0081	0.55	2.41	0.37705	0.003	0.21	0.91
245/355	33V43	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F43	70												
246/355	33V40	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F40	70												
247/355	33V41	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F41	70												
244-247/355	50G2	Additives Mill [12]	Baghouse	50F11	70												
262/355	50F45	Dry Starch Product Screening Rec. [10] [11]	Baghouse	50F45	70	1,000	996	0.0082	0.07	0.31	0.0082	0.07	0.31	0.56962	0.0047	0.04	0.17
	TOTAL								**1.68**	**7.37**		**1.68**	**7.37**			**0.85**	**3.73**

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 6B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4195-00003 and revised pursuant to A 157-6170-00003 and Part 70 Operating Permit No. T157-6009-00003.
[11] The PM_{10} lb/hr emission rate is based on a PSD minor limit determination, pursuant to Part 70 Operating Permit No. T157-6009-00003.
[12] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Reaction Operations
Table 6B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
236/355	33V1	Starch Feed Bin	Bin Vent	33F1	0.29	1.27	38	Yes
237/355	33V2	Starch Feed Bin	Bin Vent	33F2	0.29	1.27	38	Yes
238	33R1	Low Pressure Dry Starch Reactor	Baghouses	33F101/33F102	0.078	0.34	5	Yes
239	33V5	Catalyst Storage Bin	Bin Vent	33F5	0.034	0.15	2	Yes
240	33R2	High Pressure Dry Starch Reactor	Baghouses	33F201/33F202	0.08	0.35	6	Yes
241/361	50V61	Reactor Surge Bin	Bin Vent	50F161	0.11	0.48	9	Yes
242/361	50V62	Reactor Surge Bin	Bin Vent	50F162	0.11	0.48	9	Yes
243/355	50F48	Dry Starch Product Screening Rec.	Baghouse	50F48	0.07	0.31	5	Yes
	50G1	Reactor 2 Mill						
244/355	33V42	Dry Starch Blend Bin	Bin Vent	33F42	0.55	2.41	100	Yes
245/355	33V43	Dry Starch Blend Bin	Bin Vent	33F43				
246/355	33V40	Dry Starch Blend Bin	Bin Vent	33F40				
247/355	33V41	Dry Starch Blend Bin	Bin Vent	33F41				
244-247/355	50G2	Additives Mill	Baghouse	50F11				
262/355	50F45	Dry Starch Product Screening Rec.	Baghouse	50F45	0.07	0.31	5	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Drying & Storage Emissions Summary
Starch Drying and Handling Operations
Table 7A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Particulate Matter Control Device Emissions [1]		Flash Dryer No. 1 Process Emissions [2]		Flash Dryer No. 2 Process Emissions [3]		Flash Dryer No. 3 Process Emissions [4]		Spray Dryer No. 1 Process Emissions [5]		Spray Dryer No. 2 Process Emissions [6]		Spray Agglomerator Process Emissions [7]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	44.35	194.25	0	0	0	0	0	0	0	0	0	0	0	0	44.35	194.25
PM_{10}	44.35	194.25	0	0	0	0	0	0	0	0	0	0	0	0	44.35	194.25
$PM_{2.5}$	16.72	73.24	0	0	0	0	0	0	0	0	0	0	0	0	16.72	73.24
SO_2	0	0	0.01	0.04	0.02	0.10	0.02	0.10	0.01	0.06	0.01	0.06	0.004	0.02	0.09	0.39
NO_x	0	0	1.41	6.18	3.92	17.18	3.92	17.18	2.35	10.31	1.00	4.38	0.61	2.66	13.22	57.88
VOC	0	0	0.23	1.02	0.64	2.82	0.64	2.82	0.39	1.69	0.40	1.76	0.10	0.44	2.41	10.55
CO	0	0	1.19	5.19	3.29	14.43	3.29	14.43	1.98	8.66	2.06	9.02	0.51	2.24	12.32	53.96
GHGs (as CO_2e)	0	0	1,704	7,465	4,735	20,737	4,735	20,737	2,841	12,442	2,947	12,909	734	3,214	17,695	77,505
HAPs																
Total POM	0	0	7.31E-07	3.20E-06	2.03E-06	8.90E-06	2.03E-06	8.90E-06	1.22E-06	5.34E-06	1.27E-06	5.56E-06	3.15E-07	1.38E-06	7.60E-06	3.33E-05
Benzene	0	0	2.96E-05	1.30E-04	8.24E-05	3.61E-04	8.24E-05	3.61E-04	4.94E-05	2.16E-04	5.15E-05	2.25E-04	1.28E-05	5.59E-05	3.08E-04	1.35E-03
Dichlorobenzene	0	0	1.69E-05	7.42E-05	4.71E-05	2.06E-04	4.71E-05	2.06E-04	2.82E-05	1.24E-04	2.94E-05	1.29E-04	7.29E-06	3.19E-05	1.76E-04	7.71E-04
Formaldehyde	0	0	0.21	0.90	0.57	2.51	0.57	2.51	0.34	1.51	0.36	1.57	0.09	0.39	2.14	9.39
Hexane	0	0	0.03	0.11	0.07	0.31	0.07	0.31	0.04	0.19	0.04	0.19	0.01	0.05	0.26	1.16
Naphthalene	0	0	8.61E-06	3.77E-05	2.39E-05	1.05E-04	2.39E-05	1.05E-04	1.44E-05	6.29E-05	1.50E-05	6.55E-05	3.71E-06	1.62E-05	8.95E-05	3.92E-04
Toluene	0	0	4.80E-05	2.10E-04	1.33E-04	5.84E-04	1.33E-04	5.84E-04	8.00E-05	3.50E-04	8.33E-05	3.65E-04	2.07E-05	9.05E-05	4.99E-04	2.18E-03
Arsenic	0	0	2.82E-06	1.24E-05	7.84E-06	3.44E-05	7.84E-06	3.44E-05	4.71E-06	2.06E-05	4.90E-06	2.15E-05	1.22E-06	5.32E-06	2.93E-05	1.28E-04
Cadmium	0	0	1.55E-05	6.80E-05	4.31E-05	1.89E-04	4.31E-05	1.89E-04	2.59E-05	1.13E-04	2.70E-05	1.18E-04	6.69E-06	2.93E-05	1.61E-04	7.07E-04
Chromium	0	0	1.98E-05	8.66E-05	5.49E-05	2.40E-04	5.49E-05	2.40E-04	3.29E-05	1.44E-04	3.43E-05	1.50E-04	8.51E-06	3.73E-05	2.05E-04	8.99E-04
Cobalt	0	0	1.19E-06	5.19E-06	3.29E-06	1.44E-05	3.29E-06	1.44E-05	1.98E-06	8.66E-06	2.06E-06	9.02E-06	5.11E-07	2.24E-06	1.23E-05	5.40E-05
Manganese	0	0	5.36E-06	2.35E-05	1.49E-05	6.53E-05	1.49E-05	6.53E-05	8.94E-06	3.92E-05	9.31E-06	4.08E-05	2.31E-06	1.01E-05	5.57E-05	2.44E-04
Mercury	0	0	3.67E-06	1.61E-05	1.02E-05	4.47E-05	1.02E-05	4.47E-05	6.12E-06	2.68E-05	6.37E-06	2.79E-05	1.58E-06	6.92E-06	3.81E-05	1.67E-04
Nickel	0	0	2.96E-05	1.30E-04	8.24E-05	3.61E-04	8.24E-05	3.61E-04	4.94E-05	2.16E-04	5.15E-05	2.25E-04	1.28E-05	5.59E-05	3.08E-04	1.35E-03
TOTAL HAPs	0	0	0.23	1.02	0.64	2.82	0.64	2.82	0.39	1.69	0.40	1.76	0.10	0.44	2.41	10.56

VOC emissions from Roll Dryers 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, and 19D303 have been accounted for in Table 5D.

Notes:
[1] Table 7B1 -- Particulate Matter Control Device Emissions
[2] Table 7C -- Starch Flash Dryer No. 1 (40D1) Natural Gas Combustion Emissions
[3] Table 7D -- Starch Flash Dryer No. 2 (40D20) Natural Gas Combustion Emissions
[4] Table 7E -- Starch Flash Dryer No. 1 (43D71) Natural Gas Combustion Emissions
[5] Table 7F -- Starch Spray Dryer No. 1 (30D1) Natural Gas Combustion Emissions
[6] Table 7G -- Starch Spray Dryer No. 2 (46D200) Natural Gas Combustion Emissions
[7] Table 7H -- Starch Spray Agglomerator (50D101) Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Starch Drying and Handling Operations
Table 7B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$-PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	Ratio [7]	gr/dscf [8]	lb/hr [9]	TPY [5]
FLASH DRYER NO. 1 SYSTEM																	
69	40D1	Starch Flash Dryer No. 1 [10]	Scrubber	40F3	100	23,500	22,157	0.0063	1.2	5.26	0.0063	1.2	5.26	0.37705	0.0024	0.45	1.98
70	40F7	Pneumatic Product Transfer [10]	Baghouse	40F7	100	3,500	3,300	0.0530	1.5	6.57	0.0530	1.5	6.57	0.37705	0.0200	0.57	2.48
71	7V8	Starch Storage Bin #8 [10]	Bin Vent	7F8	110	650	602	0.0058	0.03	0.13	0.0058	0.03	0.13	0.37705	0.0022	0.01	0.05
72	7V9	Starch Storage Bin #9 [10]	Bin Vent	7F9	110	650	602	0.0058	0.03	0.13	0.0058	0.03	0.13	0.37705	0.0022	0.01	0.05
146	25G1	Flash Dryer #1 Mill Prod. Coll.	Baghouse	25F2	80	2,800	2,738	0.0102	0.23	1.01	0.0102	0.23	1.01	0.37705	0.0037	0.09	0.38
147	25F1	Pneu. Conv. To Mill Feed Rec.	Baghouse	25F1	80	650	636	0.0102	0.05	0.22	0.0102	0.05	0.22	0.37705	0.0035	0.02	0.08
274	43V90	Adipic Acid Storage Bin [11]	Bin Vent	43F90	70	500	498	0.2811	1.2	5.26	0.2811	1.2	5.26	0.37705	0.1060	0.45	1.98
FLASH DRYER NO. 2 SYSTEM																	
73	40D20	Starch Flash Dryer No. 2 [12] [13]	Scrubber	40F26	105	110,000	102,796	see note	7.54	33.03	see note	7.54	33.03	0.37705	0.0032	2.84	12.45
76	7V20	Starch Product Bin No. 20 [13]	Bin Vent	7F20	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
77	7V21	Starch Product Bin No. 21 [13]	Bin Vent	7F21	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
78	7V22	Starch Product Bin No. 22 [13]	Bin Vent	7F22	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
267	7V23	Starch Product Bin No. 23 [13]	Bin Vent	7F33	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
286/360	40G20	Starch Grinder/Mill #1 [13]	Baghouse	40F28	140	3,600	3,168	0.005	0.14	0.61	0.005	0.14	0.61	0.37705	0.0019	0.05	0.23
287/360	40G21	Starch Grinder/Mill #2 [13]	Baghouse	40F29	140	3,600	3,168	0.005	0.14	0.61	0.005	0.14	0.61	0.37705	0.0019	0.05	0.23
FLASH DRYER NO. 3 SYSTEM																	
265	43D71	Starch Flash Dryer No. 3 [16]	Scrubber	43F80	105	110,000	102,796	0.0086	7.54	33.03	0.0086	7.54	33.03	0.37705	0.0032	2.84	12.45
266	40G88	Flash 3 Mill [16]	Baghouse	40F88	120	3,300	3,004	0.0089	0.23	1.01	0.0089	0.23	1.01	0.37705	0.0034	0.09	0.38
268	7V34	Starch Bin 900 [16]	Bin Vent	7F34	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
269	7V35	Starch Bin [16]	Bin Vent	7F35	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
345	7V91	Blend Bin #1 [16]	Bin Vent	7F91	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
346	7V92	Blend Bin #2 [16]	Bin Vent	7F92	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
41 BLDG. ROLL DRYER SYSTEM																	
96/355	41F200	Pneumatic Product Transfer Roll Dryer [17]	Baghouse	41F200	150	6,500	5,626	0.0058	0.28	1.23	0.0058	0.28	1.23	0.37705	0.0022	0.11	0.46
	41G200	Roll Dryer Mill [17]	Baghouse	41F210													
97	41V10	Product Bin #10 [17]	Bin Vent	41F10	110	760	704	0.0050	0.03	0.13	0.0050	0.03	0.13	0.37705	0.0019	0.01	0.05
98	41V11	Product Bin #11 [17]	Bin Vent	41F11	110	760	704	0.0050	0.03	0.13	0.0050	0.03	0.13	0.37705	0.0019	0.01	0.05
100/355	41F201	Pneumatic Product Transfer Roll Dryer [17]	Baghouse	41F201	150	6,500	5,626	0.0081	0.39	1.71	0.0081	0.39	1.71	0.37705	0.0030	0.15	0.64
	41G201	Roll Dryer Mill [17]	Baghouse	41F211													
19 BLDG. ROLL DRYER SYSTEM																	
86/355	41C35	Product Trans. to Bins #17 & 18 [13]	Baghouses	41F20, 41F21	100	2,000	1,886	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
89	41V17	Product Bin #17 [13]	Bin Vent	41F22	100	300	283	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
90	41V18	Product Bin #18 [13]	Bin Vent	41F23	100	300	283	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
344	41F13	Bulk Bag Dump Station [17] [18]	Bin Vent	41F13	70	600	598	0.0059	0.03	0.13	0.0059	0.03	0.13	0.37705	0.0022	0.01	0.05
366	19F400	Roll Dryer Mill Feed Collector Baghouse [13] [15]	Baghouse	19F400	100	18,000	16,971	0.005	0.73	3.20	0.005	0.73	3.20	0.37705	0.0019	0.28	1.21
	19G401	Roll Dryer System Mill [13]	Baghouse	19F402													
SPRAY DRYER NO. 1 SYSTEM																	
82	30D1	Spray Dryer No. 1 [17]	Baghouses	30F2, 30F3	200	59,000	47,200	0.0110	4.45	19.49	0.0110	4.45	19.49	0.37705	0.0041	1.68	7.35
85/355	41C30	Product Trans. to Bins #14 & 15 [13]	Baghouses	41F14, 41F15	100	2,000	1,886	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
87	41V14	Product Bin #14 [13]	Bin Vent	41F16	120	300	273	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
88	41V15	Product Bin #15 [13]	Bin Vent	41F17	120	300	273	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
SPRAY DRYER NO. 2 SYSTEM																	
84/360	30G1	Dryer Mill [17]	Baghouse	30F15	110	15,000	13,895	0.0080	0.95	4.16	0.0080	0.95	4.16	0.37705	0.0030	0.36	1.57
226	41V45	Product Bin 45 [13]	Bin Vent	41F45	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
248	33V44	Product Bin 44 [13]	Bin Vent	33F44	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
255	41V46	Product Bin 46 [13]	Bin Vent	41F46	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
360/360	46D200	Spray Dryer No. 2 [13] [20]	Baghouses	46F231, 46F232	200	120,000	96,000	see note	6.61	28.95	see note	6.61	28.95	0.37705	0.0030	2.49	10.92
432	41V47	Product Bin 47 [13]	Bin Vent	41F47	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
SPRAY AGGLOMERATION SYSTEM & SPRAY DRYER #3 SYSTEM																	
349/361	50D101	Spray Agglomeration System [18] [21]	Baghouse	50F102	200	20,000	16,000	0.0080	1.10	4.82	0.0080	1.10	4.82	0.37705	0.0030	0.41	1.82
350/361	50F106	Agglomeration Blender/Receiver [18] [21]	Baghouse	50F106	80	1,500	1,467	0.0080	0.10	0.44	0.0080	0.10	0.44	0.37705	0.0030	0.04	0.17
	50V111	Bulk Bag Feed #1 Dump Station [18]															
	50V112	Bulk Bag Feed #2 Dump Station [18]															
BELT DRYER SYSTEM																	
103	7F25	Belts Product Conveying Mill Product to Bins 3, 4, 5	Baghouse	7F25	80	300	293	0.0100	0.03	0.13	0.0100	0.03	0.13	0.37705	0.0045	0.01	0.05
104	7F26	Belts Product Conveying Mill Product to Bins 1, 2, 3	Baghouse	7F26	80	300	293	0.0100	0.03	0.13	0.0100	0.03	0.13	0.37705	0.0045	0.01	0.05
105	7V46	Product Bin 5	Bin Vent	7F69	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
106	7V47	Product Bin 4	Bin Vent	7F70	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
107	7V48	Product Bin 3	Bin Vent	7F71	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
108	7V49	Product Bin 2	Bin Vent	7F72	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
109	7V50	Product Bin 1	Bin Vent	7F73	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
177	16D4	Belt Dryer No. 1	1st Stage Scrubber	16F26	150	31,500	27,266	0.0108	3.89	17.04	0.0108	3.89	17.04	0.37705	0.0063	1.47	6.42
			2nd Stage Scrubber	17F78	140	16,800	14,784										
	16D5	Belt Dryer No. 2	1st Stage Scrubber	16F27	150	31,500	27,266	0.0108	3.89	17.04	0.0108	3.89	17.04	0.37705	0.0063	1.47	6.42
			2nd Stage Scrubber	17F79	140	16,800	14,784										
	TOTAL								**44.35**	**194.25**		**44.35**	**194.25**			**16.72**	**73.24**

VOC emissions from Roll Dryers 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, and 19D303 have been accounted for in Table 5D.

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 7B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP (79) 1599 and OP 79-10-90-0406.
[11] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4569-00003 and A 157-6180-00003.
[12] The grain loading is 0.008 gr/acf.
[13] The grain loading as well as the PM and PM_{10} emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[14] Emission unit 40F27 can exhaust to the intake of bins 7V20, 7V21, 7V22 and 7V23.
[15] The airflow for this emission unit was accounted for when the original BACT was determined.
[16] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003.
[17] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-5294-00003.
[18] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[19] Emission unit 30F13 can exhaust to the intake of bins 41V45, 41V46, 41V47, and 33V44.
[20] The grain loading is 0.008 gr/scf.
[21] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to MSM 157-11907-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Drying and Handling Operations
Table 7B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
FLASH DRYER NO. 1 SYSTEM								
69	40D1	Starch Flash Dryer No. 1	Scrubber	40F3	1.20	5.26	320	Yes
70	40F7	Pneumatic Product Transfer	Baghouse	40F7	0.15	0.66	14	Yes
71	7V8	Starch Storage Bin #8	Bin Vent	7F8	0.03	0.13	1	Yes
72	7V9	Starch Storage Bin #9	Bin Vent	7F9	0.03		1	Yes
146	25G1	Flash Dryer #1 Mill Prod. Coll.	Baghouse	25F2	0.23	1.01	27	Yes
147	25F1	Pneu. Conv. To Mill Feed Rec.	Baghouse	25F1	0.05	0.22	3	Yes
274	43V90	Adipic Acid Storage Bin	Bin Vent	43F90	0.03	0.13	1	Yes
FLASH DRYER NO. 3 SYSTEM								
265	43D71	Starch Flash Dryer No. 3	Scrubber	43F80	7.54	33.03	4,965	Yes
266	40G88	Flash 3 Mill	Baghouse	40F88	0.23	1.01	27	Yes
268	7V34	Starch Bin	Bin Vent	7F34	0.20	0.88	22	Yes
269	7V35	Starch Bin	Bin Vent	7F35	0.20		22	Yes
345	7V91	Blend Bin #1	Bin Vent	7F91	0.20	0.88	22	Yes
346	7V92	Blend Bin #2	Bin Vent	7F92	0.20	0.88	22	Yes
41 BLDG. ROLL DRYER SYSTEM								
96/355	41F200	Pneumatic Product Transfer Roll Dryer	Baghouse	41F200	0.28	1.23	36	Yes
	41G200	Roll Dryer Mill	Baghouse	41F210				
97	41V10	Product Bin #10	Bin Vent	41F10	0.03	0.13	1	Yes
98	41V11	Product Bin #11	Bin Vent	41F11	0.03	0.13	1	Yes
100/355	41F201	Pneumatic Product Transfer Roll Dryer	Baghouse	41F201	0.39	1.71	60	Yes
	41G201	Roll Dryer Mill	Baghouse	41F211				
19 BLDG. ROLL DRYER SYSTEM								
344	41F13	Bulk Bag Dump Station	Bin Vent	41F13	0.03	0.13	1	Yes
SPRAY DRYER NO. 1 SYSTEM								
82	30D1	Spray Dryer No. 1	Baghouses	30F2, 30F3	4.45	19.49	2,260	Yes
SPRAY DRYER NO. 2 SYSTEM								
84/360	30G1	Dryer Mill	Baghouse	30F15	0.95	4.16	226	Yes
SPRAY AGGLOMERATION SYSTEM & SPRAY DRYER #3 SYSTEM								
349/361	50D101	Spray Agglomeration System	Baghouse	50F102	1.10	4.82	281	Yes
350/361	50F106	Agglomeration Blender/Receiver	Baghouse	50F106	0.10	0.44	8	Yes
	50V111	Bulk Bag Feed #1 Dump Station						
	50V112	Bulk Bag Feed #2 Dump Station						
BELT DRYER SYSTEM								
103	7F25	Belts Product Conveying Mill Product to Bins 3, 4, 5	Baghouse	7F25	0.03	0.13	1	Yes
104	7F26	Belts Product Conveying Mill Product to Bins 1, 2, 3	Baghouse	7F26	0.03	0.13	1	Yes
105	7V46	Product Bin 5	Bin Vent	7F69	0.06	0.26	4	Yes
106	7V47	Product Bin 4	Bin Vent	7F70	0.06	0.26	4	Yes
107	7V48	Product Bin 3	Bin Vent	7F71	0.06	0.26	4	Yes
108	7V49	Product Bin 2	Bin Vent	7F72	0.06	0.26	4	Yes
109	7V50	Product Bin 1	Bin Vent	7F73	0.06	0.26	4	Yes
177	16D4	Belt Dryer No. 1	1st Stage Scrubber	16F26	3.89	17.04	1,849	Yes
			2nd Stage Scrubber	17F78				
	16D5	Belt Dryer No. 2	1st Stage Scrubber	16F27	3.89	17.04	1,849	Yes
			2nd Stage Scrubber	17F79				

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Flash Dryer No. 1 (40D1) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	14.4
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.014

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	1.41	6.18
CO	84	lb/MMscf [5]	1.19	5.19
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.01	0.04
VOC	16.43	lb/MMscf [7]	0.23	1.02
CO_2	120,000	lb/MMscf [6]	1,694	7,420
CH_4	2.3	lb/MMscf [6]	0.03	0.14
N_2O	2.2	lb/MMscf [6]	0.03	0.14
GHGs [8]			1,694	7,421
CO_2e [9]			1,704	7,465
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	3.4E-07	1.5E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	4.2E-08	1.9E-07
Fluorene	2.8E-06	lb/MMscf [10]	4.0E-08	1.7E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	2.4E-07	1.1E-06
Pyrene	5.0E-06	lb/MMscf [10]	7.1E-08	3.1E-07
TOTAL POM			7.3E-07	3.2E-06
Benzene	2.1E-03	lb/MMscf [10]	3.0E-05	1.3E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	1.7E-05	7.4E-05
Formaldehyde	14.62	lb/MMscf [11]	0.21	0.90
Hexane	1.80	lb/MMscf [10]	0.03	0.11
Naphthalene	6.1E-04	lb/MMscf [10]	8.6E-06	3.8E-05
Toluene	3.4E-03	lb/MMscf [10]	4.8E-05	2.1E-04
Arsenic	2.0E-04	lb/MMscf [12]	2.8E-06	1.2E-05
Cadmium	1.1E-03	lb/MMscf [12]	1.6E-05	6.8E-05
Chromium	1.4E-03	lb/MMscf [12]	2.0E-05	8.7E-05
Cobalt	8.4E-05	lb/MMscf [12]	1.2E-06	5.2E-06
Manganese	3.8E-04	lb/MMscf [12]	5.4E-06	2.3E-05
Mercury	2.6E-04	lb/MMscf [12]	3.7E-06	1.6E-05
Nickel	2.1E-03	lb/MMscf [12]	3.0E-05	1.3E-04
TOTAL HAPs			0.23	1.02

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Flash Dryer No. 2 (40D20) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	40
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.039

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	3.92	17.18
CO	84	lb/MMscf [5]	3.29	14.43
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.02	0.10
VOC	16.43	lb/MMscf [7]	0.64	2.82
CO_2	120,000	lb/MMscf [6]	4,706	20,612
CH_4	2.3	lb/MMscf [6]	0.09	0.40
N_2O	2.2	lb/MMscf [6]	0.09	0.38
GHGs [8]			4,706	20,613
CO_2e [9]			4,735	20,737
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	9.4E-07	4.1E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	1.2E-07	5.2E-07
Fluorene	2.8E-06	lb/MMscf [10]	1.1E-07	4.8E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	6.7E-07	2.9E-06
Pyrene	5.0E-06	lb/MMscf [10]	2.0E-07	8.6E-07
TOTAL POM			2.0E-06	8.9E-06
Benzene	2.1E-03	lb/MMscf [10]	8.2E-05	3.6E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	4.7E-05	2.1E-04
Formaldehyde	14.62	lb/MMscf [11]	0.57	2.51
Hexane	1.80	lb/MMscf [10]	0.07	0.31
Naphthalene	6.1E-04	lb/MMscf [10]	2.4E-05	1.0E-04
Toluene	3.4E-03	lb/MMscf [10]	1.3E-04	5.8E-04
Arsenic	2.0E-04	lb/MMscf [12]	7.8E-06	3.4E-05
Cadmium	1.1E-03	lb/MMscf [12]	4.3E-05	1.9E-04
Chromium	1.4E-03	lb/MMscf [12]	5.5E-05	2.4E-04
Cobalt	8.4E-05	lb/MMscf [12]	3.3E-06	1.4E-05
Manganese	3.8E-04	lb/MMscf [12]	1.5E-05	6.5E-05
Mercury	2.6E-04	lb/MMscf [12]	1.0E-05	4.5E-05
Nickel	2.1E-03	lb/MMscf [12]	8.2E-05	3.6E-04
TOTAL HAPs			0.64	2.82

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Flash Dryer No. 3 (43D71) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	40
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.039

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	3.92	17.18
CO	84	lb/MMscf [5]	3.29	14.43
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.02	0.10
VOC	16.43	lb/MMscf [7]	0.64	2.82
CO_2	120,000	lb/MMscf [6]	4,706	20,612
CH_4	2.3	lb/MMscf [6]	0.09	0.40
N_2O	2.2	lb/MMscf [6]	0.09	0.38
GHGs [8]			4,706	20,613
CO_2e [9]			4,735	20,737
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	9.4E-07	4.1E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	1.2E-07	5.2E-07
Fluorene	2.8E-06	lb/MMscf [10]	1.1E-07	4.8E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	6.7E-07	2.9E-06
Pyrene	5.0E-06	lb/MMscf [10]	2.0E-07	8.6E-07
TOTAL POM			2.0E-06	8.9E-06
Benzene	2.1E-03	lb/MMscf [10]	8.2E-05	3.6E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	4.7E-05	2.1E-04
Formaldehyde	14.62	lb/MMscf [11]	0.57	2.51
Hexane	1.80	lb/MMscf [10]	0.07	0.31
Naphthalene	6.1E-04	lb/MMscf [10]	2.4E-05	1.0E-04
Toluene	3.4E-03	lb/MMscf [10]	1.3E-04	5.8E-04
Arsenic	2.0E-04	lb/MMscf [12]	7.8E-06	3.4E-05
Cadmium	1.1E-03	lb/MMscf [12]	4.3E-05	1.9E-04
Chromium	1.4E-03	lb/MMscf [12]	5.5E-05	2.4E-04
Cobalt	8.4E-05	lb/MMscf [12]	3.3E-06	1.4E-05
Manganese	3.8E-04	lb/MMscf [12]	1.5E-05	6.5E-05
Mercury	2.6E-04	lb/MMscf [12]	1.0E-05	4.5E-05
Nickel	2.1E-03	lb/MMscf [12]	8.2E-05	3.6E-04
TOTAL HAPs			0.64	2.82

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Dryer No. 1 (30D1) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	24
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.024

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	2.35	10.31
CO	84	lb/MMscf [5]	1.98	8.66
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.01	0.06
VOC	16.43	lb/MMscf [7]	0.39	1.69
CO_2	120,000	lb/MMscf [6]	2,824	12,367
CH_4	2.3	lb/MMscf [6]	0.05	0.24
N_2O	2.2	lb/MMscf [6]	0.05	0.23
GHGs [8]			2,824	12,368
CO_2e [9]			2,841	12,442
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	5.6E-07	2.5E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	7.1E-08	3.1E-07
Fluorene	2.8E-06	lb/MMscf [10]	6.6E-08	2.9E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	4.0E-07	1.8E-06
Pyrene	5.0E-06	lb/MMscf [10]	1.2E-07	5.2E-07
TOTAL POM			1.2E-06	5.3E-06
Benzene	2.1E-03	lb/MMscf [10]	4.9E-05	2.2E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	2.8E-05	1.2E-04
Formaldehyde	14.62	lb/MMscf [11]	0.34	1.51
Hexane	1.80	lb/MMscf [10]	0.04	0.19
Naphthalene	6.1E-04	lb/MMscf [10]	1.4E-05	6.3E-05
Toluene	3.4E-03	lb/MMscf [10]	8.0E-05	3.5E-04
Arsenic	2.0E-04	lb/MMscf [12]	4.7E-06	2.1E-05
Cadmium	1.1E-03	lb/MMscf [12]	2.6E-05	1.1E-04
Chromium	1.4E-03	lb/MMscf [12]	3.3E-05	1.4E-04
Cobalt	8.4E-05	lb/MMscf [12]	2.0E-06	8.7E-06
Manganese	3.8E-04	lb/MMscf [12]	8.9E-06	3.9E-05
Mercury	2.6E-04	lb/MMscf [12]	6.1E-06	2.7E-05
Nickel	2.1E-03	lb/MMscf [12]	4.9E-05	2.2E-04
TOTAL HAPs			0.39	1.69

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Dryer No. 2 (46D200) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7G

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	25
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.025

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	0.04	lb/MMBtu [5]	1.00	4.38
CO	84	lb/MMscf [6]	2.06	9.02
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [7]	0.01	0.06
VOC	16.43	lb/MMscf [8]	0.40	1.76
CO_2	120,000	lb/MMscf [7]	2,941	12,882
CH_4	2.3	lb/MMscf [7]	0.06	0.25
N_2O	0.64	lb/MMscf [7]	0.02	0.07
GHGs [9]			2,941	12,883
CO_2e [10]			2,947	12,909
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [11]	5.9E-07	2.6E-06
Fluoranthene	3.0E-06	lb/MMscf [11]	7.4E-08	3.2E-07
Fluorene	2.8E-06	lb/MMscf [11]	6.9E-08	3.0E-07
Phenanathrene	1.7E-05	lb/MMscf [11]	4.2E-07	1.8E-06
Pyrene	5.0E-06	lb/MMscf [11]	1.2E-07	5.4E-07
TOTAL POM			1.3E-06	5.6E-06
Benzene	2.1E-03	lb/MMscf [11]	5.1E-05	2.3E-04
Dichlorobenzene	1.2E-03	lb/MMscf [11]	2.9E-05	1.3E-04
Formaldehyde	14.62	lb/MMscf [12]	0.36	1.57
Hexane	1.80	lb/MMscf [11]	0.04	0.19
Naphthalene	6.1E-04	lb/MMscf [11]	1.5E-05	6.5E-05
Toluene	3.4E-03	lb/MMscf [11]	8.3E-05	3.7E-04
Arsenic	2.0E-04	lb/MMscf [13]	4.9E-06	2.1E-05
Cadmium	1.1E-03	lb/MMscf [13]	2.7E-05	1.2E-04
Chromium	1.4E-03	lb/MMscf [13]	3.4E-05	1.5E-04
Cobalt	8.4E-05	lb/MMscf [13]	2.1E-06	9.0E-06
Manganese	3.8E-04	lb/MMscf [13]	9.3E-06	4.1E-05
Mercury	2.6E-04	lb/MMscf [13]	6.4E-06	2.8E-05
Nickel	2.1E-03	lb/MMscf [13]	5.1E-05	2.3E-04
TOTAL HAPs			0.40	1.76

Notes:
[1] Design value
Originally premitted at 45 MMBtu/hr capacity, constructed at 25 MMBtu/hr capacity
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr)÷ 2000 lb/ton
[5] The lb/MMBtu emission rate is based on a BACT determination.
[6] AP-42, Table 1.4-1, small boiler, uncontrolled
[7] AP-42, Table 1.4-2, N_2O controlled with low NOx burners
[8] Summation of organic HAP emission factors below
[9] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[10] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[11] AP-42, Table 1.4-3, only detectable values used
[12] Based on worse-case data from starch dryers
[13] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Agglomerator (50D101) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7H

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Natural Gas Higher Heating Value (Btu/scf)	1020
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	6.2
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.006

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	0.61	2.66
CO	84	lb/MMscf [5]	0.51	2.24
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.004	0.02
VOC	16.43	lb/MMscf [7]	0.10	0.44
CO_2	120,000	lb/MMscf [6]	729	3,195
CH_4	2.3	lb/MMscf [6]	0.01	0.06
N_2O	2.2	lb/MMscf [6]	0.01	0.06
GHGs [8]			729	3,195
CO_2e [9]			734	3,214
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	1.5E-07	6.4E-07
Fluoranthene	3.0E-06	lb/MMscf [10]	1.8E-08	8.0E-08
Fluorene	2.8E-06	lb/MMscf [10]	1.7E-08	7.5E-08
Phenanathrene	1.7E-05	lb/MMscf [10]	1.0E-07	4.5E-07
Pyrene	5.0E-06	lb/MMscf [10]	3.0E-08	1.3E-07
TOTAL POM			3.1E-07	1.4E-06
Benzene	2.1E-03	lb/MMscf [10]	1.3E-05	5.6E-05
Dichlorobenzene	1.2E-03	lb/MMscf [10]	7.3E-06	3.2E-05
Formaldehyde	14.62	lb/MMscf [11]	0.09	0.39
Hexane	1.80	lb/MMscf [10]	0.01	0.05
Naphthalene	6.1E-04	lb/MMscf [10]	3.7E-06	1.6E-05
Toluene	3.4E-03	lb/MMscf [10]	2.1E-05	9.1E-05
Arsenic	2.0E-04	lb/MMscf [12]	1.2E-06	5.3E-06
Cadmium	1.1E-03	lb/MMscf [12]	6.7E-06	2.9E-05
Chromium	1.4E-03	lb/MMscf [12]	8.5E-06	3.7E-05
Cobalt	8.4E-05	lb/MMscf [12]	5.1E-07	2.2E-06
Manganese	3.8E-04	lb/MMscf [12]	2.3E-06	1.0E-05
Mercury	2.6E-04	lb/MMscf [12]	1.6E-06	6.9E-06
Nickel	2.1E-03	lb/MMscf [12]	1.3E-05	5.6E-05
TOTAL HAPs			0.10	0.44

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Starch Packaging and Loadout Operations
Table 8A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$-PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
PACKER #1 SYSTEM																	
102	16F5	Product Transfer to Main Packer #1	Baghouse	16F5	80	1,500	1,467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.37705	0.0039	0.05	0.21
	17F27	Cationic Product Rec. for Packer #1	Baghouse	17F27													
177	17Z38	Packer #1 [10] [11]	Baghouse	17F10	80	18,500	18,089	0.0080	1.24	5.43	0.0080	1.24	5.43	0.37705	0.0030	0.47	2.05
	17V04	Packer #1 Reject Bag Dump [10] [11]															
190/177	17V6	Product Bin #6/House Vacuum Sys.	Baghouse	17F6	80	1,400	1,369	0.0102	0.12	0.53	0.0102	0.12	0.53	0.37705	0.0039	0.05	0.20
334	17U58	Reprocess Bag Dump [10] [11]	Baghouse	17F58	80	400	391	0.0089	0.03	0.13	0.0089	0.03	0.13	0.37705	0.0034	0.01	0.05
	17U59	Reprocess Tote Dump [10] [11]															
PACKER #2 SYSTEM																	
177	17Z01	Starch Transfer to Bag Packer #2 [12]	Baghouse	17F01	80	2,500	2,444	0.0081	0.17	0.74	0.0081	0.17	0.74	0.37705	0.0031	0.06	0.28
	17F2	House Dust Collector System for Bag Packer #2 [11] [12]	Baghouse	17F02	80	16,000	15,644	0.0082	1.1	4.82	0.0082	1.07	4.69	0.37705	0.0031	0.41	1.82
	17V05	Packer #2 Reject Bag Dump [11]															
PACKER #3 SYSTEM																	
184/355	41F7	Spray Cook Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F7	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z3	Spray Cook Starch Products Bag Packer #3 [13]															
	41F181	O.S. Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F181													
	41Z3	O.S. Starch Products Bag Packer #3 [13]															
186/355	41F18	Roll Dried Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F18	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z5	Roll Dried Starch Products Bag Packer #3 [13]															
256/361	41F44	Bag Packer #3 House Dust Collector [10] [11]	Baghouse	41F44	100	16,000	15,086	0.0053	0.69	3.02	0.0053	0.69	3.02	0.37705	0.0020	0.26	1.14
	41Z6	#3 Bulk Bagger [10] [11]															
428/355	41F182	Malto Product Transfer To Bag Packer #3 [13]	Baghouse	41F182	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z1	Malto Products Bag Packer #3 [13]															
429/355	41F183	Dry Starch Reacted Product Transfer to Bag Packer #3 [13]	Baghouse	41F183	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z2	Dry Starch Reacted Products Bag Packer #3 [13]															
430/355	41F186	Bag Packer #3 House Dust Collector [13]	Baghouse	41F186	100	16,000	15,086	0.005	0.65	2.85	0.005	0.65	2.85	0.37705	0.0019	0.25	1.07
PACKER #4 SYSTEM																	
332	17Z03	Starch Transfer to Bag Packer #4 [14]	Baghouses	17F03/17F04	80	3,000	2,933	0.0080	0.20	0.88	0.0080	0.20	0.88	0.37705	0.0030	0.08	0.33
333	17F15	House Dust Collector System For Packer #4 [11] [14]	Baghouse	17F15	80	16,000	15,644	0.0164	2.2	9.64	0.0080	1.07	4.69	0.37705	0.0062	0.83	3.63
	17V06	Packer #4 Reject Bag/Tote Dump [11] [14]															
BULK BAGGERS & TOTE PACKER SYSTEM																	
191/177	16F25	Product Transfer Collector for #1 Bulk Bagger [10] [11]	Baghouse	16F25	80	1,500	1,467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.37705	0.0039	0.05	0.21
	16J44	#1 Bulk Bagger [10] [11]															
208/355	41F8/41F81/ 41F82	Product Receivers for #3 Bulk Bagger [11] [15]	Baghouses	41F8/41F81/ 41F82	80	1,700	1,662	0.0077	0.11	0.48	0.0077	0.11	0.48	0.37705	0.0029	0.04	0.18
254	17F14	Product Transfer Collector for Bulk Bagger #2 [11] [12]	Baghouse	17F14	80	1,100	1,076	0.0087	0.08	0.35	0.0087	0.08	0.35	0.37705	0.0033	0.03	0.13
	17Z14	#2 Bulk Bagger [11] [12]															
STARCH LOADOUT SYSTEMS																	
79/404	20F60	Starch Rail Loadout (Track #10) [13]	Baghouse	20F60	70	2,200	2,192	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0018	0.03	0.15
135/404	20F61	Starch Rail Loadout (Track #9)	Baghouse	20F61	80	2,000	1,956	0.0101	0.17	0.74	0.0101	0.17	0.74	0.37705	0.0038	0.06	0.28
183/177	16F100	J-4 Starch Rail Loadout Collector [10] [11]	Baghouse	16F100	80	2,000	1,956	0.0101	0.17	0.74	0.0101	0.17	0.74	0.37705	0.0038	0.06	0.28
189	41F6	33 Bldg Starch Bulk Truck Loadout [11] [15]	Baghouse	41F6	80	1,000	978	0.0048	0.04	0.18	0.0048	0.04	0.18	0.37705	0.0018	0.02	0.07
264/404	20F78/20F79	Bulk Truck Loadout System [11] [12]	Baghouses	20F78/20F79	80	1,800	1,760	0.0080	0.12	0.53	0.0080	0.12	0.53	0.37705	0.0030	0.05	0.20
330/404	20F1	Bulk #1 Product Screening System [11] [16]	Baghouse	20F1	80	2,200	2,151	0.0542	1.0	4.38	0.0542	1.0	4.38	0.37705	0.0204	0.38	1.65
331/404	20F50	Bulk #2 Product Screening System [11] [16]	Baghouse	20F50	80	2,200	2,151										
	TOTAL								**8.88**	**38.89**		**7.72**	**33.81**			**3.35**	**14.67**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 8B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[11] The PM_{10} lb/hr emission rate is based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[12] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4160-00003.
[13] The grain loading as well as the PM and PM_{10} lb/hr emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[14] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4569-00003 and A 157-6180-00003.
[15] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-5294-00003.
[16] The combined PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to Exemption 157-8071-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Packaging and Loadout Operations
Table 8B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
PACKER #1 SYSTEM								
102	16F5	Product Transfer to Main Packer #1	Baghouse	16F5	0.13	0.57	12	Yes
	17F27	Cationic Product Rec. for Packer #1	Baghouse	17F27				
177	17Z38	Packer #1 [9]	Baghouse	17F10	1.59	6.96	486	Yes
	17V04	Packer #1 Reject Bag Dump						
190/177	17V6	Product Bin #6/House Vacuum Sys.	Baghouse	17F6	0.12	0.53	10	Yes
334	17U58	Reprocess Bag Dump	Baghouse	17F58	0.03	0.13	1	Yes
	17U59	Reprocess Tote Dump						
PACKER #2 SYSTEM								
177	17Z01	Starch Transfer to Bag Packer #2	Baghouse	17F01	0.17	0.74	17	Yes
	17F2	House Dust Collector System for Bag Packer #2	Baghouse	17F2	1.10	4.82	281	Yes
	17V05	Packer #2 Reject Bag Dump						
PACKER #3 SYSTEM								
256/361	41F44	Bag Packer #3 House Dust Collector	Baghouse	41F44	0.69	3.02	140	Yes
	41Z6	#3 Bulk Bagger						
PACKER #4 SYSTEM								
332	17Z03	Starch Transfer to Bag Packer #4	Baghouses	17F03/17F04	0.20	0.88	22	Yes
333	17F15	House Dust Collector System For Packer #4	Baghouse	17F15	1.07	4.69	269	Yes
	17V06	Packer #4 Reject Bag/Tote Dump						
BULK BAGGERS & TOTE PACKER SYSTEM								
191/177	16F25	Product Transfer Collector for #1 Bulk Bagger	Baghouse	16F25	0.13	0.57	12	Yes
	16J44	#1 Bulk Bagger						
208/355	41F8/41F81/ 41F82	Product Receivers for #3 Bulk Bagger	Baghouses	41F8/41F81/ 41F82	0.11	0.48	9	Yes
254	17F14	Product Transfer Collector for Bulk Bagger #2	Baghouse	17F14	0.08	0.35	6	Yes
	17Z14	#2 Bulk Bagger						
STARCH LOADOUT SYSTEMS								
135/404	20F61	Starch Rail Loadout (Track #9)	Baghouse	20F61	0.17	0.74	17	Yes
183/177	16F100	J-4 Starch Rail Loadout Collector	Baghouse	16F100	0.17	0.74	17	Yes
189	41F6	33 Bldg Starch Bulk Truck Loadout	Baghouse	41F6	0.04	0.18	2	Yes
264/404	20F78/20F79	Bulk Truck Loadout System	Baghouses	20F78/20F79	0.12	0.53	10	Yes
330/404	20F1	Bulk #1 Product Screening System	Baghouse	20F1	0.15	0.66	14	Yes
331/404	20F50	Bulk #2 Product Screening System	Baghouse	20F50	0.15	0.66	14	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Boiler Support Facilities
Table 9A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	**Emission Unit Description**	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [7]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]		gr/dscf [8]	lb/hr [9]	TPY [5]
119	9V32	GMH Starch Storage Silo	Bin Vent	9F32	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
199	31V1	Boiler Ash Silo & Truck Loading [9]	Bin Vent	31F1	200	1000	800	0.0131			0.0131			0.294118	0.0039	0.03	0.12
200	31F10	Ash Pneu. Transfer to Ash Silo [9]	Baghouse	31F10	200	2100	1680	0.0125			0.0125			0.294118	0.0037	0.05	0.23
203	31V3	Coal Storage Silo [9]	Bin Vent	31F21	80	1200	1173	0.0099	0.51	2.23	0.0099	0.51	2.23	0.294118	0.0029	0.03	0.13
204	31V4	Coal Day Bin [9]	Bin Vent	31F19	80	800	782	0.0104			0.0104			0.294118	0.0031	0.02	0.09
205	31V5	Coal Day Bin [9]	Bin Vent	31F20	80	800	782	0.0104			0.0104			0.294118	0.0031	0.02	0.09
	TOTAL								**0.54**	**2.37**		**0.54**	**2.37**			**0.17**	**0.73**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68)÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM/PM_{10} controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 9B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The combined PM lb/hr emission rate for these units is based on a PSD limit determination, pursuant to PSD (79) 1557 and Part 70 Operating Permit No. T157-6009-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Boiler Support Facilities
Table 9B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM/PM_{10} Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
119	9V32	GMH Starch Storage Silo	Bin Vent	9F32	0.03	0.13	1	Yes
199	31V1	Boiler Ash Silo & Truck Loading	Bin Vent	31F1	0.09	0.39	7	Yes
200	31F10	Ash Pneu. Transfer to Ash Silo	Baghouse	31F10	0.18	0.79	19	Yes
203	31V3	Coal Storage Silo	Bin Vent	31F21	0.10	0.44	8	Yes
204	31V4	Coal Day Bin	Bin Vent	31F19	0.07	0.31	5	Yes
205	31V5	Coal Day Bin	Bin Vent	31F20	0.07	0.31	5	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Coal Boiler (31B1) and Natural Gas Boilers (11B1, 11B2, and 11B3) PTE Summary
Utility Area
Table 10A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Scenario 1 [1]		Scenario 2 [2]		Boilers PTE [3]	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	196.01	858.54	102.94	450.88	196.01	858.54
CO	20.49	89.76	30.88	135.26	30.88	135.26
PM/PM_{10}	12.48	54.67	2.79	12.24	12.48	54.67
$PM_{2.5}$	4.96	21.71	2.79	12.24	4.96	21.71
SO_2	277.27	1214.46	0.22	0.97	277.27	1214.46
VOC	1.77	7.77	2.02	8.86	2.02	8.86
GHGs (as CO_2e)	31,399	137,525	44,386	194,411	44,386	194,411
HAPs						
Total POM	2.15E-04	9.41E-04	1.90E-05	8.34E-05	2.15E-04	9.41E-04
Acetaldehyde	5.72E-03	2.51E-02	0	0	5.72E-03	2.51E-02
Acetophenone	1.51E-04	6.60E-04	0	0	1.51E-04	6.60E-04
Acrolein	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
Benzene	1.33E-02	5.83E-02	7.72E-04	3.38E-03	1.33E-02	5.83E-02
Benzyl chloride	7.03E-03	3.08E-02	0	0	7.03E-03	3.08E-02
Bis(2-ethylhexyl)phthalate	7.33E-04	3.21E-03	0	0	7.33E-04	3.21E-03
Bromoform	3.92E-04	1.72E-03	0	0	3.92E-04	1.72E-03
Carbon sulfide	1.31E-03	5.72E-03	0	0	1.31E-03	5.72E-03
2-Chloroacetophenone	7.03E-05	3.08E-04	0	0	7.03E-05	3.08E-04
Chlorobenzene	2.21E-04	9.68E-04	0	0	2.21E-04	9.68E-04
Chloroform	5.93E-04	2.60E-03	0	0	5.93E-04	2.60E-03
Cumene	5.32E-05	2.33E-04	0	0	5.32E-05	2.33E-04
Cyanide	2.51E-02	1.10E-01	0	0	2.51E-02	1.10E-01
Dichlorobenzene	1.47E-04	6.44E-04	4.41E-04	1.93E-03	4.41E-04	1.93E-03
2,4-Dinitrotoluene	2.81E-06	1.23E-05	0	0	2.81E-06	1.23E-05
Dimethyl sulfate	4.82E-04	2.11E-03	0	0	4.82E-04	2.11E-03
Ethylbenzene	9.44E-04	4.14E-03	0	0	9.44E-04	4.14E-03
Ethyl chloride	4.22E-04	1.85E-03	0	0	4.22E-04	1.85E-03
Ethylene dichloride	4.02E-04	1.76E-03	0	0	4.02E-04	1.76E-03
Ethylene dibromide	1.21E-05	5.28E-05	0	0	1.21E-05	5.28E-05
Formaldehyde	1.16E-02	5.08E-02	2.76E-02	1.21E-01	2.76E-02	1.21E-01
Hexane	2.21E-01	9.69E-01	6.62E-01	2.90E+00	6.62E-01	2.90E+00
Isophorone	5.83E-03	2.55E-02	0	0	5.83E-03	2.55E-02
Methyl bromide	1.61E-03	7.04E-03	0	0	1.61E-03	7.04E-03
Methyl chloride	5.32E-03	2.33E-02	0	0	5.32E-03	2.33E-02
Methyl hydrazine	1.71E-03	7.48E-03	0	0	1.71E-03	7.48E-03
Methyl methacrylate	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
Methyl tert butyl ether	3.52E-04	1.54E-03	0	0	3.52E-04	1.54E-03
Methylene chloride	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
Naphthalene	1.31E-04	5.72E-04	2.24E-04	9.82E-04	2.24E-04	9.82E-04
Phenol	1.61E-04	7.04E-04	0	0	1.61E-04	7.04E-04
Propionaldehyde	3.82E-03	1.67E-02	0	0	3.82E-03	1.67E-02
Tetrachlorotheylene	4.32E-04	1.89E-03	0	0	4.32E-04	1.89E-03
Toluene	2.83E-03	1.24E-02	1.25E-03	5.48E-03	2.83E-03	1.24E-02
1,1,1,-Trichloroethane	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
Styrene	2.51E-04	1.10E-03	0	0	2.51E-04	1.10E-03
Xylenes	3.72E-04	1.63E-03	0	0	3.72E-04	1.63E-03
Vinyl acetate	7.63E-05	3.34E-04	0	0	7.63E-05	3.34E-04
HCl	1.21E+01	5.28E+01	0	0	1.21E+01	5.28E+01
HF	1.51E+00	6.60E+00	0	0	1.51E+00	6.60E+00
Antimony	1.81E-04	7.92E-04	0	0	1.81E-04	7.92E-04
Arsenic	4.14E-03	1.81E-02	7.35E-05	3.22E-04	4.14E-03	1.81E-02
Beryllium	2.11E-04	9.24E-04	0	0	2.11E-04	9.24E-04
Cadmium	6.47E-04	2.83E-03	4.04E-04	1.77E-03	6.47E-04	2.83E-03
Chromium	2.78E-03	1.22E-02	5.15E-04	2.25E-03	2.78E-03	1.22E-02
Cobalt	1.01E-03	4.44E-03	3.09E-05	1.35E-04	1.01E-03	4.44E-03
Lead	4.22E-03	1.85E-02	0	0	4.22E-03	1.85E-02
Manganese	4.97E-03	2.18E-02	1.40E-04	6.12E-04	4.97E-03	2.18E-02
Mercury	8.65E-04	3.79E-03	9.56E-05	4.19E-04	8.65E-04	3.79E-03
Nickel	3.07E-03	1.34E-02	7.72E-04	3.38E-03	3.07E-03	1.34E-02
Selenium	1.31E-02	5.72E-02	0	0	1.31E-02	5.72E-02
TOTAL HAPs	13.91	60.94	0.69	3.04	13.91	60.94

Notes:
[1] Table 10B - Scenario 1: Coal Boiler and One of the Three Boilers Firing Natural Gas
[2] Table 10C - Scenario 2: Boilers 11B1, 11B2, and 11B3 Firing Natural Gas
[3] Worse case value from each of the two scenarios

Appendix A: Emissions Calculations
Scenario 1: Coal Boiler and One of the Three Boilers Firing Natural Gas
Utility Area
Table 10B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Coal Boiler [1]		One Boiler Firing Natural Gas [2]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	161.70	708.25	34.31	150.29	196.01	858.54
CO	10.20	44.68	10.29	45.09	20.49	89.76
PM/PM_{10}	11.55	50.59	0.93	4.08	12.48	54.67
$PM_{2.5}$	4.03	17.63	0.93	4.08	4.96	21.71
SO_2	277.20	1214.14	0.07	0.32	277.27	1214.46
VOC	1.10	4.82	0.67	2.95	1.77	7.77
GHGs (as CO_2e)	16,603	72,722	14,795	64,804	31,399	137,525
HAPs						
Total POM	2.08E-04	9.13E-04	6.35E-06	2.78E-05	2.15E-04	9.41E-04
Acetaldehyde	5.72E-03	2.51E-02	0	0	5.72E-03	2.51E-02
Acetophenone	1.51E-04	6.60E-04	0	0	1.51E-04	6.60E-04
Acrolein	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
Benzene	1.31E-02	5.72E-02	2.57E-04	1.13E-03	1.33E-02	5.83E-02
Benzyl chloride	7.03E-03	3.08E-02	0	0	7.03E-03	3.08E-02
Bis(2-ethylhexyl)phthalate	7.33E-04	3.21E-03	0	0	7.33E-04	3.21E-03
Bromoform	3.92E-04	1.72E-03	0	0	3.92E-04	1.72E-03
Carbon sulfide	1.31E-03	5.72E-03	0	0	1.31E-03	5.72E-03
2-Chloroacetophenone	7.03E-05	3.08E-04	0	0	7.03E-05	3.08E-04
Chlorobenzene	2.21E-04	9.68E-04	0	0	2.21E-04	9.68E-04
Chloroform	5.93E-04	2.60E-03	0	0	5.93E-04	2.60E-03
Cumene	5.32E-05	2.33E-04	0	0	5.32E-05	2.33E-04
Cyanide	2.51E-02	1.10E-01	0	0	2.51E-02	1.10E-01
Dichlorobenzene	0	0	1.47E-04	6.44E-04	1.47E-04	6.44E-04
2,4-Dinitrotoluene	2.81E-06	1.23E-05	0	0	2.81E-06	1.23E-05
Dimethyl sulfate	4.82E-04	2.11E-03	0	0	4.82E-04	2.11E-03
Ethylbenzene	9.44E-04	4.14E-03	0	0	9.44E-04	4.14E-03
Ethyl chloride	4.22E-04	1.85E-03	0	0	4.22E-04	1.85E-03
Ethylene dichloride	4.02E-04	1.76E-03	0	0	4.02E-04	1.76E-03
Ethylene dibromide	1.21E-05	5.28E-05	0	0	1.21E-05	5.28E-05
Formaldehyde	2.41E-03	1.06E-02	9.19E-03	4.03E-02	1.16E-02	5.08E-02
Hexane	6.73E-04	2.95E-03	2.21E-01	9.66E-01	2.21E-01	9.69E-01
Isophorone	5.83E-03	2.55E-02	0	0	5.83E-03	2.55E-02
Methyl bromide	1.61E-03	7.04E-03	0	0	1.61E-03	7.04E-03
Methyl chloride	5.32E-03	2.33E-02	0	0	5.32E-03	2.33E-02
Methyl hydrazine	1.71E-03	7.48E-03	0	0	1.71E-03	7.48E-03
Methyl methacrylate	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
Methyl tert butyl ether	3.52E-04	1.54E-03	0	0	3.52E-04	1.54E-03
Methylene chloride	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
Naphthalene	1.31E-04	5.72E-04	0	0	1.31E-04	5.72E-04
Phenol	1.61E-04	7.04E-04	0	0	1.61E-04	7.04E-04
Propionaldehyde	3.82E-03	1.67E-02	0	0	3.82E-03	1.67E-02
Tetrachlorotheylene	4.32E-04	1.89E-03	0	0	4.32E-04	1.89E-03
Toluene	2.41E-03	1.06E-02	4.17E-04	1.83E-03	2.83E-03	1.24E-02
1,1,1,-Trichloroethane	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
Styrene	2.51E-04	1.10E-03	0	0	2.51E-04	1.10E-03
Xylenes	3.72E-04	1.63E-03	0	0	3.72E-04	1.63E-03
Vinyl acetate	7.63E-05	3.34E-04	0	0	7.63E-05	3.34E-04
HCl	1.21E+01	5.28E+01	0	0	1.21E+01	5.28E+01
HF	1.51E+00	6.60E+00	0	0	1.51E+00	6.60E+00
Antimony	1.81E-04	7.92E-04	0	0	1.81E-04	7.92E-04
Arsenic	4.12E-03	1.80E-02	2.45E-05	1.07E-04	4.14E-03	1.81E-02
Beryllium	2.11E-04	9.24E-04	0	0	2.11E-04	9.24E-04
Cadmium	5.12E-04	2.24E-03	1.35E-04	5.90E-04	6.47E-04	2.83E-03
Chromium	2.61E-03	1.14E-02	1.72E-04	7.51E-04	2.78E-03	1.22E-02
Cobalt	1.00E-03	4.40E-03	1.03E-05	4.51E-05	1.01E-03	4.44E-03
Lead	4.22E-03	1.85E-02	0	0	4.22E-03	1.85E-02
Manganese	4.92E-03	2.16E-02	4.66E-05	2.04E-04	4.97E-03	2.18E-02
Mercury	8.34E-04	3.65E-03	3.19E-05	1.40E-04	8.65E-04	3.79E-03
Nickel	2.81E-03	1.23E-02	2.57E-04	1.13E-03	3.07E-03	1.34E-02
Selenium	1.31E-02	5.72E-02	0	0	1.31E-02	5.72E-02
TOTAL HAPs	13.68	59.93	0.23	1.01	13.91	60.94

Notes:
[1] Table 10D - Coal Boiler (31B1) Coal Combustion Emissions
[2] Table 10E - Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Scenario 2: Boilers 11B1, 11B2, and 11B3 Firing Natural Gas
Utility Area
Table 10C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Pollutant	Boiler 11B1 [1]		Boiler 11B2 [1]		Boiler 11B3 [1]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	34.31	150.29	34.31	150.29	34.31	150.29	102.94	450.88
CO	10.29	45.09	10.29	45.09	10.29	45.09	30.88	135.26
PM/PM_{10}	0.93	4.08	0.93	4.08	0.93	4.08	2.79	12.24
$PM_{2.5}$	0.93	4.08	0.93	4.08	0.93	4.08	2.79	12.24
SO_2	0.07	0.32	0.07	0.32	0.07	0.32	0.22	0.97
VOC	0.67	2.95	0.67	2.95	0.67	2.95	2.02	8.86
GHGs (as CO_2e)	14,795	64,804	14,795	64,804	14,795	64,804	44,386	194,411
HAPs								
Total POM	6.35E-06	2.78E-05	6.35E-06	2.78E-05	6.35E-06	2.78E-05	1.90E-05	8.34E-05
Benzene	2.57E-04	1.13E-03	2.57E-04	1.13E-03	2.57E-04	1.13E-03	7.72E-04	3.38E-03
Dichlorobenzene	1.47E-04	6.44E-04	1.47E-04	6.44E-04	1.47E-04	6.44E-04	4.41E-04	1.93E-03
Formaldehyde	9.19E-03	4.03E-02	9.19E-03	4.03E-02	9.19E-03	4.03E-02	2.76E-02	1.21E-01
Hexane	2.21E-01	9.66E-01	2.21E-01	9.66E-01	2.21E-01	9.66E-01	6.62E-01	2.90E+00
Naphthalene	7.48E-05	3.27E-04	7.48E-05	3.27E-04	7.48E-05	3.27E-04	2.24E-04	9.82E-04
Toluene	4.17E-04	1.83E-03	4.17E-04	1.83E-03	4.17E-04	1.83E-03	1.25E-03	5.48E-03
Arsenic	2.45E-05	1.07E-04	2.45E-05	1.07E-04	2.45E-05	1.07E-04	7.35E-05	3.22E-04
Cadmium	1.35E-04	5.90E-04	1.35E-04	5.90E-04	1.35E-04	5.90E-04	4.04E-04	1.77E-03
Chromium	1.72E-04	7.51E-04	1.72E-04	7.51E-04	1.72E-04	7.51E-04	5.15E-04	2.25E-03
Cobalt	1.03E-05	4.51E-05	1.03E-05	4.51E-05	1.03E-05	4.51E-05	3.09E-05	1.35E-04
Manganese	4.66E-05	2.04E-04	4.66E-05	2.04E-04	4.66E-05	2.04E-04	1.40E-04	6.12E-04
Mercury	3.19E-05	1.40E-04	3.19E-05	1.40E-04	3.19E-05	1.40E-04	9.56E-05	4.19E-04
Nickel	2.57E-04	1.13E-03	2.57E-04	1.13E-03	2.57E-04	1.13E-03	7.72E-04	3.38E-03
TOTAL HAPs	0.23	1.01	0.23	1.01	0.23	1.01	0.69	3.04

Notes:
[1] Table 10E - Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Coal Boiler (31B1) Coal Combustion Emissions
Utility Area
Table 10D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Coal Higher Heating Value (Btu/lb)	11500
Boiler Heat Input (MMBtu/hr) [1]	231
Boiler Coal Usage (tons/hr) [2]	10.043
$PM_{2.5}$:PM_{10} Ratio based on SCC Code for Coal Combustion	0.3485
Hours of Operation (hr/yr)	8760

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.7	lb/MMBtu [5]	161.70	708.25
CO			10.2	lb/hr [6]	10.20	44.68
PM/PM_{10}			0.05	lb/MMBtu [5]	11.55	50.59
$PM_{2.5}$			0.017	lb/MMBtu [7]	4.03	17.63
SO_2			1.2	lb/MMBtu [5]	277.20	1214.14
VOC			1.1	lb/hr [6]	1.10	4.82
CO_2			6,250	lb/ton coal [8]	16,603	72,722
CH_4			0.04	lb/ton coal [9]	0.11	0.47
N_2O			0.08	lb/ton coal [9]	0.21	0.93
GHGs [10]					16,603	72,723
CO_2e [11]					16,671	73,020
HAPs						
	POM					
		Biphenyl	1.70E-06	lb/ton coal [12]	1.71E-05	7.48E-05
		Acenaphthene	5.10E-07	lb/ton coal [12]	5.12E-06	2.24E-05
		Acenaphthylene	2.50E-07	lb/ton coal [12]	2.51E-06	1.10E-05
		Anthracene	2.10E-07	lb/ton coal [12]	2.11E-06	9.24E-06
		Benzo(a)anthracene	8.00E-08	lb/ton coal [12]	8.03E-07	3.52E-06
		Benzo(a)pyrene	3.80E-08	lb/ton coal [12]	3.82E-07	1.67E-06
		Benzo(b,j,k)fluoranthene	1.10E-07	lb/ton coal [12]	1.10E-06	4.84E-06
		Benzo(h,g,i)perylene	2.70E-08	lb/ton coal [12]	2.71E-07	1.19E-06
		Chrysene	1.00E-07	lb/ton coal [12]	1.00E-06	4.40E-06
		Fluoranthene	7.10E-07	lb/ton coal [12]	7.13E-06	3.12E-05
		Fluorene	9.10E-07	lb/ton coal [12]	9.14E-06	4.00E-05
		Indeno(1,2,3-cd)pyrene	6.10E-08	lb/ton coal [12]	6.13E-07	2.68E-06
		Naphthalene	1.30E-05	lb/ton coal [12]	1.31E-04	5.72E-04
		Phenanathrene	2.70E-06	lb/ton coal [12]	2.71E-05	1.19E-04
		Pyrene	3.30E-07	lb/ton coal [12]	3.31E-06	1.45E-05
		5-Methyl chrysene	2.20E-08	lb/ton coal [12]	2.21E-07	9.68E-07
		TOTAL POM			2.08E-04	9.13E-04
	Acetaldehyde		5.70E-04	lb/ton coal [13]	5.72E-03	2.51E-02
	Acetophenone		1.50E-05	lb/ton coal [13]	1.51E-04	6.60E-04
	Acrolein		2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
	Benzene		1.30E-03	lb/ton coal [13]	1.31E-02	5.72E-02
	Benzyl chloride		7.00E-04	lb/ton coal [13]	7.03E-03	3.08E-02
	Bis(2-ethylhexyl)phthalate		7.30E-05	lb/ton coal [13]	7.33E-04	3.21E-03
	Bromoform		3.90E-05	lb/ton coal [13]	3.92E-04	1.72E-03
	Carbon sulfide		1.30E-04	lb/ton coal [13]	1.31E-03	5.72E-03
	2-Chloroacetophenone		7.00E-06	lb/ton coal [13]	7.03E-05	3.08E-04
	Chlorobenzene		2.20E-05	lb/ton coal [13]	2.21E-04	9.68E-04
	Chloroform		5.90E-05	lb/ton coal [13]	5.93E-04	2.60E-03
	Cumene		5.30E-06	lb/ton coal [13]	5.32E-05	2.33E-04
	Cyanide		2.50E-03	lb/ton coal [13]	2.51E-02	1.10E-01
	2,4-Dinitrotoluene		2.80E-07	lb/ton coal [13]	2.81E-06	1.23E-05
	Dimethyl sulfate		4.80E-05	lb/ton coal [13]	4.82E-04	2.11E-03
	Ethylbenzene		9.40E-05	lb/ton coal [13]	9.44E-04	4.14E-03
	Ethyl chloride		4.20E-05	lb/ton coal [13]	4.22E-04	1.85E-03
	Ethylene dichloride		4.00E-05	lb/ton coal [13]	4.02E-04	1.76E-03
	Ethylene dibromide		1.20E-06	lb/ton coal [13]	1.21E-05	5.28E-05
	Formaldehyde		2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
	Hexane		6.70E-05	lb/ton coal [13]	6.73E-04	2.95E-03
	Isophorone		5.80E-04	lb/ton coal [13]	5.83E-03	2.55E-02
	Methyl bromide		1.60E-04	lb/ton coal [13]	1.61E-03	7.04E-03
	Methyl chloride		5.30E-04	lb/ton coal [13]	5.32E-03	2.33E-02
	Methyl hydrazine		1.70E-04	lb/ton coal [13]	1.71E-03	7.48E-03
	Methyl methacrylate		2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
	Methyl tert butyl ether		3.50E-05	lb/ton coal [13]	3.52E-04	1.54E-03
	Methylene chloride		2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
	Phenol		1.60E-05	lb/ton coal [13]	1.61E-04	7.04E-04
	Propionaldehyde		3.80E-04	lb/ton coal [13]	3.82E-03	1.67E-02
	Tetrachlorotheylene		4.30E-05	lb/ton coal [13]	4.32E-04	1.89E-03
	Toluene		2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
	1,1,1,-Trichloroethane		2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
	Styrene		2.50E-05	lb/ton coal [13]	2.51E-04	1.10E-03
	Xylenes		3.70E-05	lb/ton coal [13]	3.72E-04	1.63E-03
	Vinyl acetate		7.60E-06	lb/ton coal [13]	7.63E-05	3.34E-04
	HCl		1.20E+00	lb/ton coal [14]	1.21E+01	5.28E+01
	HF		1.50E-01	lb/ton coal [14]	1.51E+00	6.60E+00
	Antimony		1.80E-05	lb/ton coal [15]	1.81E-04	7.92E-04
	Arsenic		4.10E-04	lb/ton coal [15]	4.12E-03	1.80E-02
	Beryllium		2.10E-05	lb/ton coal [15]	2.11E-04	9.24E-04
	Cadmium		5.10E-05	lb/ton coal [15]	5.12E-04	2.24E-03
	Chromium		2.60E-04	lb/ton coal [15]	2.61E-03	1.14E-02
	Cobalt		1.00E-04	lb/ton coal [15]	1.00E-03	4.40E-03
	Lead		4.20E-04	lb/ton coal [15]	4.22E-03	1.85E-02
	Manganese		4.90E-04	lb/ton coal [15]	4.92E-03	2.16E-02
	Mercury		8.30E-05	lb/ton coal [15]	8.34E-04	3.65E-03
	Nickel		2.80E-04	lb/ton coal [15]	2.81E-03	1.23E-02
	Selenium		1.30E-03	lb/ton coal [15]	1.31E-02	5.72E-02
TOTAL HAPs					13.68	59.93

Notes:
[1] Design value
[2] Coal Usage (tons/hr) = Heat Input (MMBtu/hr) x 1000000 Btu/MMBtu÷ [Coal Higher Heating Value (Btu/lb) x 2000 lb/ton]
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] The lb/MMBtu emission rate is based on a BACT determination.
[6] The lb/hr emission rate is based on a BACT determination.
[7] PM/PM_{10} Emission Factor (lb/MMBtu) x $PM_{2.5}$:PM_{10} Ratio
[8] AP-42, Table 1.1-20, Page 1.1-42, low-volatile bituminous coal
[9] AP-42, Table 1.1-19, Page 1.1-40, PC-fired, dry bottom, tangentially fired
[10] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[11] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[12] AP-42, Table 1.1-13, Page 1.1-33
[13] AP-42, Table 1.1-14, Page 1.1-34
[14] AP-42, Table 1.1-15, Page 1.1-36
[15] AP-42, Table 1.1-18, Page 1.1-39

Appendix A: Emissions Calculations
Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions
Utility Area
Table 10E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

The following calculations are for each boiler:

Natural Gas Higher Heating Value (Btu/scf)	1020
Boiler Heat Input (MMBtu/hr) [1]	125
Boiler Natural Gas Usage (MMscf/hr) [2]	0.123
Hours of Operation (hr/yr)	8760

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	280	lb/MMscf [5]	34.31	150.29
CO	84	lb/MMscf [5]	10.29	45.09
PM/PM_{10}	7.6	lb/MMscf [5]	0.93	4.08
$PM_{2.5}$	7.6	lb/MMscf [5]	0.93	4.08
SO_2	0.6	lb/MMscf [6]	0.07	0.32
VOC	5.5	lb/MMscf [6]	0.67	2.95
CO_2	120,000	lb/MMscf [6]	14,706	64,412
CH_4	2.3	lb/MMscf [6]	0.28	1.23
N_2O	2.2	lb/MMscf [6]	0.27	1.18
GHGs [7]			14,706	64,414
CO_2e [8]			14,795	64,804
HAPs				
POM				
2-Methylnaphthalene	2.40E-05	lb/MMscf [9]	2.94E-06	1.29E-05
Fluoranthene	3.00E-06	lb/MMscf [9]	3.68E-07	1.61E-06
Fluorene	2.80E-06	lb/MMscf [9]	3.43E-07	1.50E-06
Phenanathrene	1.70E-05	lb/MMscf [9]	2.08E-06	9.13E-06
Pyrene	5.00E-06	lb/MMscf [9]	6.13E-07	2.68E-06
TOTAL POM			6.35E-06	2.78E-05
Benzene	2.10E-03	lb/MMscf [9]	2.57E-04	1.13E-03
Dichlorobenzene	1.20E-03	lb/MMscf [9]	1.47E-04	6.44E-04
Formaldehyde	7.50E-02	lb/MMscf [9]	9.19E-03	4.03E-02
Hexane	1.80E+00	lb/MMscf [9]	2.21E-01	9.66E-01
Naphthalene	6.10E-04	lb/MMscf [9]	7.48E-05	3.27E-04
Toluene	3.40E-03	lb/MMscf [9]	4.17E-04	1.83E-03
Arsenic	2.00E-04	lb/MMscf [10]	2.45E-05	1.07E-04
Cadmium	1.10E-03	lb/MMscf [10]	1.35E-04	5.90E-04
Chromium	1.40E-03	lb/MMscf [10]	1.72E-04	7.51E-04
Cobalt	8.40E-05	lb/MMscf [10]	1.03E-05	4.51E-05
Manganese	3.80E-04	lb/MMscf [10]	4.66E-05	2.04E-04
Mercury	2.60E-04	lb/MMscf [10]	3.19E-05	1.40E-04
Nickel	2.10E-03	lb/MMscf [10]	2.57E-04	1.13E-03
TOTAL HAPs			0.23	1.01

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) x Boiler Natural Gas Usage (MMscf/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, Page 1.4-5. Values for Large Boilers - Uncontrolled, Pre-NSPS used.
[6] AP-42, Table 1.4-2, Page 1.4-6, N_2O uncontrolled
[7] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[8] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[9] AP-42, Table 1.4-3, Page 1.4-7, 8
[10] AP-42, Table 1.4-4, Page 1.4-9

Appendix A: Emissions Calculations
Digester Emissions Summary
Wastewater Treatment Anaerobic Digester
Table 11A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Unit Description	Ref.	Emission Rates (TPY)																
										HAPs								
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	GHGs (as CO_2e)	Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane
Biogas Flare	[1]	0	0	0	39.41	9.53	51.86	19.62	0	0	0	0	0	0	0	0	0	0
Emergency Generator	[2]	0.17	0.17	0.17	0.16	2.46	0.53	0.20	90.73	0	negl.	negl.	0	0	0	0	0	0
TOTAL		0.17	0.17	0.17	39.58	11.99	52.39	19.82	90.73	0.00	negl.	negl.	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
[1] Table 11B - Biogas Flare Process Emission Calculations
[2] Table 11C - Reciprocating Internal Combustion Engines - Diesel Fuel

Appendix A: Emissions Calculations
Biogas Flare Process Emission Calculations
Wastewater Treatment Anaerobic Digester
Table 11B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element		Data	Value		Reference/Calculation
Operating Hours		[A]	8,760	hr/yr	design value
Biogas Production Rate		[B]	32	MMBtu/hr	design value
Biogas Higher Heating Value		[C]	650	Btu/scf	design value
Biogas Temperature		[D]	90	^oF	design value
		[E]	550	^oR	[D] + 460^oF
Biogas Flow Rate		[F]	855	acfm	design value
		[G]	821	scfm	[F] x [L] ÷ [E]
Molecular Weights of Pollutants					
	H_2S	[H]	34	lb/lb-mol	
	SO_2	[I]	64	lb/lb-mol	
Gas Constant		[J]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[K]	68	^oF	
		[L]	528	^oR	[K] + 460^oF
Uncontrolled H_2S Emission Rate		[M]	11000	ppmv	engineering estimate
Scrubber H_2S Removal Efficiency		[N]	90%		design value
Controlled Emission Rates					
	H_2S	[O]	1100	ppmv	[M] x (1 - [N])
		[P]	4.78	lb/hr	[O] x [G] x [H] x 60 min/hr ÷ ([J] x 1,000,000)
		[Q]	0.1406	lb-mol/hr	[P] ÷ [H]
Calculate Emissions from Flare Using the Following Formula: $2H_2S + 3O_2$ ---> $2SO_2 + 2H_2O$					
	SO_2	[R]	9.00	lb/hr	[Q] x [I]
		[S]	39.41	tpy	[R] x [A] ÷ 2000 lb/ton
		[T]	0.28	lb/MMBtu	[R] ÷ [B]
		[U]	1.75E-04	lb/cf	[R] ÷ (60 min/hr x [F])
Flare Emission Factors					
	NO_x	[V]	0.068	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
	CO	[W]	0.37	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
	VOC	[X]	0.14	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
Calculate Emissions from Biogas Combustion in Flare					
	NO_x	[Y]	2.18	lb/hr	[B] x [V]
		[Z]	9.53	tpy	[Y] x [A] ÷ 2000 lb/ton
	CO	[AA]	11.84	lb/hr	[B] x [W]
		[BB]	51.86	tpy	[AA] x [A] ÷ 2000 lb/ton
	VOC	[CC]	4.48	lb/hr	[B] x [X]
		[DD]	19.62	tpy	[CC] x [A] ÷ 2000 lb/ton

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Wastewater Treatment Anaerobic Digester
Table 11C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	317
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	158,500

	Pollutant											
	PM*	PM_{10}*	$PM_{2.5}$*	SO_2	NO_x	VOC	CO	CO_2**	CH_4**	N_2O**	GHGs	CO_2e
Emission Factor (lb/hp-hr)	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	1.1411	4.63E-05	9.26E-06	---	---
Potential Emissions (tons/yr)	0.17	0.17	0.17	0.16	2.46	0.20	0.53	90.43	0.004	0.001	90.43	90.73

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor (lb/hp-hr)****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emissions (tons/yr)	5.18E-04	2.27E-04	1.58E-04	2.17E-05	6.55E-04	4.25E-04	5.13E-05	9.32E-05
							Potential Emissions of Total HAPs (tons/yr)	**2.15E-03**

Notes:
* PM and $PM_{2.5}$ emission factors are assumed to be equivalent to PM_{10} emission factors.
No information was given regarding which method was used to determine the factor or the fraction of PM_{10} which is condensable.
** Emission factors in lb/hp-hr were calculated using emission factors in kg/MMBtu for Distillate Fuel Oil #2 and a brake specific fuel consumption of 7,000 Btu/hp-hr (Tables C-1 and C-2 to Subpart C of 40 CFR 98).
*** PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
**** Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore
Fugitive Emissions Summary
Table FE1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Emission Unit Description	Ref.	Emission Rates (TPY)															
									HAPs								
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane
Building Fugitives	[1]	0	0	0	9.00	0	0	15.86	0	1.25	0	0	0	0	0	0	0
WWTP Fugitives	[2]	0	0	0	0	0	0	9.05	0	3.23	0	0	0	0	0	0	0
Paved Road Fugitives	[3]	27.52	5.50	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck Loadout Fugitives	[4]	2.14	0.52	0.10	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		29.66	6.02	1.45	9.00	0.00	0.00	24.92	0.00	4.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
[1] Table FE2 - Building Fugitive Emission Calculations
[2] Table FE4 - Wastewater Treatment Plant Fugitive Emission Calculations
[3] Table FE5 - Paved Roads Fugitive Emission Calculations
[4] Table FE7 - Corn Unloading & Feed Loadout Fugitive Emission Calculations

Appendix A: Emissions Calculations
Building Fugitive Emission Calculations
Fugitive Emissions
Table FE2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Building/Structure		Building Dimensions			Building Volume (ft^3) [2]	Building Free Volume (ft^3) [3]	Air Temp. (F)	Actual Airflow (acf/hr) [4]	Standard Airflow (scf/hr) [5]	Emission Rates													
										Ethanol				Acetaldehyde				VOC		SO2			
		Length (ft)	Width (ft)	Height (ft)						Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]	Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]	lb/hr [9]	tons/yr [8]	Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]
Steephouse																							
	14 Building	169	47	60	476580																		
	14 Building Annex	60	50	60	180000																		
	Total				656580	492435	70	2954610	2742770	46	5	1.76	7.70	44	0.1	0.03	0.15	1.79	7.84	64	3	1.47	6.42
Millhouse - 15 Building																							
	Area I	66	66	80	348480																		
	Area II	53	66	60	209880																		
	Area III	40	66	40	105600																		
	Total				663960	497970	70	2987820	2773599	46	1	0.36	1.56	44	0.1	0.03	0.15	0.39	1.71	64	1	0.49	2.17
Refinery																							
	Building 18	144	144	40	829440																		
	Building 18A	106	75	40	318000																		
	Building 18B	50	50	40	100000																		
	Building 18C	34	44	40	59840																		
	Total				1307280	980460	70	5882760	5460977	46	1	0.70	3.06	44	0.1	0.07	0.29	0.77	3.36	64	0.02	0.02	0.09
Feedhouse - 21 Building																							
	Area I	156	19	40	118560																		
	Area II	156	25	80	312000																		
	Area III	156	44	80	549120																		
	Total				979680	734760	70	4408560	4092475	46	1	0.52	2.30	44	0.3	0.15	0.66	0.67	2.96	64	0.1	0.07	0.32
TOTAL												3.34	14.61			0.29	1.25	3.62	15.86			2.05	9.00

Notes:

[1] Basis for estimating fugitive air flow from buildings:
OSHA Laboratory Guidelines (29 CFR 1910.1450, Appendix A) recommends 4-12 room air changes per hour.
National Fire Protection Association Guide for vegetable oil extraction plants (NFPA 36 - Standard for Solvent Extraction Plants - 1977) recommends at Section 5-3.1 that
"Enclosed plants shall have sufficient ventilation to change the volume of air at least six times per hour."
Since vegetable oil extraction is associated with corn wet milling, a factor of six air changes per hour is deemed appropriate for fugitive emission calculations.

[2] Building Volume (ft^3) = Length (ft) x Width (ft) x Height (ft

[3] Building Free Volume (ft^3) = Building Volume (ft^3) x 0.75
Basis for free volume is that 25% of buildings are occupied by equipment and 75% are open air space.

[4] Actual Airflow (acf/hr) = Building Free Volume (f^3) x 6 Air Changes per Hour (see Note [1]

[5] Standard Airflow (scf/hr) = Actual Airflow (acf/hr) x [492÷ (460 + Air Temp.)]
Standard temperature used: 32 F (460 K)

[6] Table FE3 - Basis for Concentration Values Used in Building Fugitive Emission Calculations

[7] Emission Rate (lb/hr) = (ppm÷ 1000000) x Standard Airflow (scf/hr) x Molecular Weight (lb/lb-mol)÷ 359 scf/lb-mol

[8] Emission Rate (tons/yr) = Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton

[9] VOC Emission Rate (lb/hr) = Ethanol Emission Rate (lb/hr) + Acetaldehyde Emission Rate (lb/hr)

Appendix A: Emissions Calculations
Basis for Concentration Values Used in Building Fugitive Emission Calculations
Fugitive Emissions
Table FE3

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Sampling Location		Test Date	Tester	Emission Rate (ppm)					
				Ethanol [3]		Acetaldehyde [3]		Sulfur Dioxide [3]	
Steephouse									
	1st Floor	7/1/08	[1]	0.7	*	0.05	*	2.5	
		8/13/08	[2]	0.372		n/d	*	1	
		8/14/08	[2]	0.365		n/d	*	1	
	2nd Floor	7/1/08	[1]	0.6	*	0.08	*	0.061	
		8/13/08	[2]	3.097		n/d	*	1	
		8/14/08	[2]	0.865		n/d	*	1	
	Maximum Value			3.097		0.08		2.5	
	Value Used			5		0.1		3	
Millhouse									
	1st Floor	7/1/08	[1]	0.6	*	0.06	*	0.12	
		8/13/08	[2]	0.508		n/d	*	n/d	*
		8/14/08	[2]	0.625		n/d	*	n/d	*
	2nd Floor	7/1/08	[1]	0.7	*	0.06	*	0.23	
		8/13/08	[2]	0.329		n/d	*	1	
		8/14/08	[2]	0.435		n/d	*	n/d	*
	Maximum Value			0.7		0.06		1	
	Value Used			1		0.1		1	
Refinery									
	1st Floor (Separator Feed Tank)	7/1/08	[1]	0.6	*	0.05	*	0.014	
	1st Floor (Tank Room)	7/1/08	[1]	0.6	*	0.05	*	0.0066	
		8/13/08	[2]	n/d	*	n/d	*	n/d	*
		8/14/08	[2]	0.023		n/d	*	n/d	*
	2nd Floor	7/1/08	[1]	0.7	*	0.05	*	0.0075	
		8/13/08	[2]	n/d	*	n/d	*	n/d	*
		8/14/08	[2]	0.069		n/d	*	n/d	*
	Maximum Value			0.7		0.05		0.014	
	Value Used			1		0.1		0.02	
Feedhouse									
	1st Floor	7/1/08	[1]	0.9	*	0.08	*	0.092	
		8/13/08	[2]	0.75		0.252		n/d	*
		8/14/08	[2]	0.08		n/d	*	n/d	*
	2nd Floor	7/16/08	[1]	0.4	*	0.07		0.049	
	Maximum Value			0.9		0.252		0.092	
	Value Used			1		0.3		0.1	

Notes:
[1] Certified Environmental Management, LTD
[2] Tate & Lyle internal testing
[3] An asterisk (*) indicates a non-detect value. The value listed is the detection limit of the instrument.

Appendix A: Emissions Calculations
Wastewater Treatment Plant Fugitive Emission Calculations
Fugitive Emissions
Table FE4

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Data Element	Data	Value		Reference/Calculation
Operating Hours	[A]	8,760	hr/yr	design value
Waste Treatment Surface Areas				
South Aeration Basin - Water Area				
Length	[B]	187.50	ft	design value
Width	[C]	127.50	ft	design value
Surface Area	[D]	23906.25	ft^2	[B] x [C]
South Aeration Basin Corner Area				
Length	[E]	107.50	ft	design value
Width	[F]	107.50	ft	design value
Diameter	[G]	107.50	ft	design value
Surface Area	[H]	2479.99	ft^2	([E] x [F]) - (π x [G] ^{2} ÷ 4)
South Aeration Basin - Total Water Area	[I]	21426.26	ft^2	[D] - [H]
North Aeration Basin - Total Water Area	[J]	21426.26	ft^2	[I]
Clarifier				
Diameter	[K]	90	ft	design value
Surface Area	[L]	6361.73	ft^2	π x [K] ^{2} ÷ 4
Total Surface Area	[M]	49214.24	ft^2	[I] + [J] + [L]
Emission Factors				
Acetaldehyde	[N]	1.50E-05	$lb/ft^2/hr$	This is the highest of three analyses for East EQ tank at the Decatur Plant used. Overestimates since a BVF is used for equalization at the Sagamore Plant. The East EQ rate expected to be the highest VOC emission rate for any waste treatment tank at either the Sagamore or Decatur Plants.
Ethanol	[O]	2.70E-05	$lb/ft^2/hr$	
Emission Rates				
Acetaldehyde	[P]	0.74	lb/hr	[M] x [N]
	[Q]	3.23	tpy	[P] x [A] ÷ 2000 lb/ton
Ethanol	[R]	1.33	lb/hr	[M] x [O]
	[S]	5.82	tpy	[R] x [A] ÷ 2000 lb/ton
VOC	[T]	2.07	lb/hr	[P] + [R]
	[U]	9.05	tpy	[Q] + [S]

Appendix A: Emissions Calculations
Paved Road Fugitive Emission Calculations
Fugitive Emissions
Table FE5

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Type of Truck	Status	Number of Trips per Day [1]	Vehicle Weight (tons) [2]	VMT per Trip (miles) [3]	Weighted Vehicle Weight (tons) [4]	VMT per Day (miles) [5]	Average Vehicle Weight (tons) [6]	PM Emission Factor (lb/VMT) [7]	PM Emission Rate (lb/day) [8]	PM Emission Rate (tons/yr) [9]	PM_{10} Emission Factor (lb/VMT) [7]	PM_{10} Emission Rate (lb/day) [8]	PM_{10} Emission Rate (tons/yr) [9]	$PM_{2.5}$ Emission Factor (lb/VMT) [7]	$PM_{2.5}$ Emission Rate (lb/day) [8]	$PM_{2.5}$ Emission Rate (tons/yr) [9]
Corn	Full	98.2	40	0.665	3928.00	65.299										
	Empty	98.2	12.5	0.494	1227.50	48.468										
Feed/Germ/Meal	Full	54.5	40	0.494	2180.00	26.899										
	Empty	54.5	12.5	0.665	681.25	36.240										
Syrup	Full	0.2	40	0.852	8.00	0.170										
	Empty	0.2	15	0.274	3.00	0.055										
Bulk Starch	Full	2.9	35	0.852	101.50	2.471										
	Empty	2.9	15	0.274	43.50	0.795										
Starch Warehouse	Full	64.6	20	0.221	1292.00	14.290	22.45	0.6354	150.81	27.52	0.1271	30.16	5.50	0.0312	7.40	1.35
	Empty	64.6	5	0.323	323.00	20.873										
Chemicals	Full	5.4	40	0.557	216.00	3.006										
	Empty	5.4	15	0.800	81.00	4.320										
Coal	Full	8.5	40	0.441	340.00	3.753										
	Empty	8.5	12.5	0.852	106.25	7.243										
Ash	Full	0.8	40	0.757	32.00	0.606										
Waste	Full	2.2	20	0.685	44.00	1.507										
	Empty	2.2	12.5	0.609	27.50	1.339										
TOTAL		473.80			10634.50	237.333										

Notes:

[1] Number of truck loads, provided by D. Copeland
[2] Data taken from Iowa fugitive emission estimates and data from Sagamore Main Gate.
[3] Table FE6 - Calculation of Vehicle Miles Travelled (VMT) per Truck Type
[4] Weighted Vehicle Weight (tons) = Vehicle Weight (tons) x Number of Trips per Day
[5] VMT per Day (miles) = VMT per Trip (miles) x Number of Trips per Day
[6] Average Vehicle Weight (tons) = Σ [Weighted Vehicle Weight (tons)] ÷ Σ (Number of Trips per Day)
[7] Emission factor equation taken from AP-42, Section 13.2.1.3, eq. 2 (published 1/11):

$$E = (k) \times (sL^{0.91}) \times (W^{1.02}) \times (1 - P \div (4 \times N))$$

where:

E = Emission Rate (lb/VMT)
k = 0.011 lb/VMT for PM (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
k = 0.0022 lb/VMT for PM_{10} (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
k = 0.00054 lb/VMT for $PM_{2.5}$ (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
sL = Silt Loading (AP-42, Section 13.2.1, Table 13.2.1-3 (Corn Wet Mills)) = 2.9 g/m^2
W = Average Vehicle Weight (tons)
P = Number of "Wet" Days with at least 0.254 mm (0.01 in) of Precipitation during the Averaging Period = 120 (AP-42, Section 13.2.1, Figure 13.2.1-2 (Lafayette, IN))
N = Number of Days in the Averaging Period = 365

[8] Emission Rate (lb/day) = Emission Factor (lb/VMT) x Σ [VMT per Day (miles)]
[9] Emission Rate (tons/yr) = Emission Rate (lb/day) x 365 days/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Vehicle Miles Travelled (VMT) per Truck Type
Fugitive Emissions
Table FE6

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Type of Truck	Status	Segment	Segment Length		Status	Segment	Segment Length	
			feet	miles [1]			feet	miles [1]
Corn	Full	R1	348	0.066	Empty	R10	702	0.133
		R2	518	0.098		R14	668	0.127
		R3	582	0.110		R15	200	0.038
		R4	883	0.167		R2	518	0.098
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		---	---	---
		Total	3,511	0.665		Total	2,606	0.494
Feed/Meal/Germ	Full	R10	702	0.133	Empty	R1	348	0.066
		R14	668	0.127		R2	518	0.098
		R15	200	0.038		R3	582	0.110
		R2	518	0.098		R4	883	0.167
		R2	518	0.098		R5	882	0.167
		---	---	---		R9	298	0.056
		Total	2,606	0.494		Total	3,511	0.665
Syrup	Full	R4	883	0.167	Empty	R1	348	0.066
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		R3	582	0.110
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	4,499	0.852		Total	1,448	0.274
Bulk Starch	Full	R4	883	0.167	Empty	R1	348	0.066
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		R3	582	0.110
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	4,499	0.852		Total	1,448	0.274
Starch Warehouse	Full	R12	130	0.025	Empty	R1	348	0.066
		R13	172	0.033		R2	518	0.098
		R2	518	0.098		R13	172	0.033
		R1	348	0.066		R14	668	0.127
		Total	1,168	0.221		Total	1,706	0.323
Chemicals [2]	Full	R1	348	0.066	Empty	R7	227	0.043
		R2	518	0.098		R6	381	0.072
		R3	582	0.110		R5	882	0.167
		R4	883	0.167		R9	298	0.056
		R6	381	0.072		R10	702	0.133
		R7	227	0.043		R14	668	0.127
		---	---	---		R15	200	0.038
		---	---	---		R2	518	0.098
		---	---	---		R1	348	0.066
		Total	2,939	0.557		Total	4,224	0.800
Coal	Full	R1	348	0.066	Empty	R4	883	0.167
		R2	518	0.098		R5	882	0.167
		R3	582	0.110		R9	298	0.056
		R4	883	0.167		R10	702	0.133
		---	---	---		R14	668	0.127
		---	---	---		R15	200	0.038
		---	---	---		R2	518	0.098
		---	---	---		R1	348	0.066
		Total	2,331	0.441		Total	4,499	0.852
Ash [3]	Full	R6	381	0.072	Empty	---	---	---
		R5	882	0.167		---	---	---
		R9	298	0.056		---	---	---
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	3,997	0.757		Total	0	0.000
Waste [4]	Full	R5	882	0.167	Empty	R1	348	0.066
		R9	298	0.056		R2	518	0.098
		R10	702	0.133		R3	582	0.110
		R14	668	0.127		R4	883	0.167
		R15	200	0.038		R5	882	0.167
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	3,616	0.685		Total	3,213	0.609

Notes:
[1] Segment Length (miles) = Segment Length (ft) ÷ 5280 ft/mile
[2] Assume all chemical trucks have identical routes.
[3] Assume ash is hauled by incoming coak trucks; therefore, there is no empty ash truck route.
[4] Assume all waste trucks have identical routes.

Appendix A: Emissions Calculations
Corn Unloading & Feed Loadout Fugitive Emission Calculations
Fugitive Emissions
Table FE7

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

Type of Activity	Material Transferred (tons/day)	PM				PM_{10}				$PM_{2.5}$			
		Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]	Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]	Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]
Corn Unloading - Straight Trucks [1] [3]	112	0.18	20.16	2.02	0.37	0.059	6.61	0.66	0.12	0.010	1.12	0.11	0.02
Corn Unloading - Hopper Trucks [2] [3]	2688	0.035	94.08	9.41	1.72	0.0078	20.97	2.10	0.38	0.0013	3.49	0.35	0.06
Feed/Meal/Germ Truck Loadout [4]	952	0.0033	3.14	0.31	0.06	0.0008	0.76	0.08	0.01	0.0008	0.76	0.08	0.01
TOTAL					2.14				0.52				0.10

Notes:

[1] Emission factors taken from AP-42 Table 9.9.1-1 (Straight Truck: SCC 3-02-005-51). If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. Of this total, 5 of the trucks are straight trucks. The remaining trucks are hopper trucks.

[2] Emission factors taken from AP-42 Table 9.9.1-1 (Hopper Truck: SCC 3-02-005-52). If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. Of this total, 120 of the trucks are hopper trucks. The remaining trucks are straight trucks.

[3] Corn is also received in hopper railcars; however, emission factors are less for rail than for truck. Therefore, all grain is assumed to be received by either straight truck or hopper truck.

[4] Emission factors taken from AP-42 Table 9.9.1-2 (Feed Shipping: SCC 3-02-008-03). This estimate assumes all product is sold in trucks. $PM_{2.5}$ is assumed to be the same as PM_{10}.

[5] Uncontrolled Emissions (lb/day) = Emission Factor (lb/ton) x Material Transferred (tons/day)

[6] Assume a capture/control efficiency of 90%.
Controlled Emissions (lb/day) = Uncontrolled Emissions (lb/day) x [1 - (Control Efficiency %÷ 100)]

[7] Controlled Emissions (tons/yr) = Controlled Emissions (lb/day) x 365 days/yr÷ 2000 lb/ton

Appendix A: Emissions Calculations
1988 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

$PM_{2.5}$:PM_{10} Ratio = 0.37705

Bulk Bagger #1 (16J44):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	150	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	150	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	30.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	5.63	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	5.63	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	2.12	tons/yr						

Bulk Bagger #3 (41Z6):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	150	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	150	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	30.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	5.63	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	5.63	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	2.12	tons/yr						

Total Uncontrolled PM/PM_{10} Emissions =	**11.26**	**tons/yr**
Total Uncontrolled $PM_{2.5}$ Emissions =	**4.25**	**tons/yr**

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
1995 Unpermitted Emission Units - Starch Reaction Operations
Uncontrolled Emissions
Table UC2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

$PM_{2.5}$:PM_{10} Ratio (50G1) =	0.56962							
$PM_{2.5}$:PM_{10} Ratio (50G2) =	0.37705							
Reactor 2 Mill (50G1):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	250	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	250	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	51.43	lb/day						
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	9.39	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	9.39	tons/yr X	0.56962					
Uncontrolled $PM_{2.5}$ Emissions =	5.35	tons/yr						
Additives Mill (50G2):								
Controlled PM/PM_{10} Emissions:	0.1	tons/yr						
Control Efficiency:	98	%						
Uncontrolled PM/PM_{10} Emissions =	0.1	tons/yr ÷ (1 -	98	%)				
Uncontrolled PM/PM_{10} Emissions =	5.00	tons/yr						
Uncontrolled PM/PM_{10} Emissions =	5.00	tons/yr ÷	8760	hr/yr X	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	1.14	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.14	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	27.40	lb/day						
Uncontrolled $PM_{2.5}$ Emissions =	5.00	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	1.89	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**14.39**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**7.23**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratios are taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
1997 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC3

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

$PM_{2.5}$:PM_{10} Ratio = 0.37705

Reprocess Tote Dump (17U59):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	400	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	400	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	82.29	lb/day						
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	15.02	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	15.02	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	5.66	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**15.02**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**5.66**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
2000 Unpermitted Emission Units - Starch Drying and Handling Operations
Uncontrolled Emissions
Table UC4

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

$PM_{2.5}$:PM_{10} Ratio =	0.37705							
Bulk Bag Feed #1 Dump Station (50V111):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	650	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	650	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	24.40	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	24.40	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	9.20	tons/yr						
Bulk Bag Feed #2 Dump Station (50V112):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	650	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	650	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	24.40	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	24.40	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	9.20	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**48.81**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**18.40**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
2000 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC5

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: June 15, 2012

$PM_{2.5}$:PM_{10} Ratio =	0.37705							
Packer #1 Reject Bag Dump (17V04):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						
Packer #2 Reject Bag Dump (17V05):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						
Packer #4 Reject Bag/Tote Dump (17V06):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**56.31**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**21.23**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification And a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Tate & Lyle Ingredients Americas LLC
Source Location:	2245 North Sagamore Parkway, Lafayette, IN 47904
County:	Tippecanoe
SIC Code:	2046
Significant Source Modification No.:	157-30564-00003
Permit Renewal No.:	T157-27029-00003
Permit Reviewer:	John Haney

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Tate & Lyle Ingredients Americas LLC relating to the operation of a stationary wet corn milling plant. On September 26, 2008, Tate & Lyle Ingredients Americas LLC submitted an application to the OAQ requesting to renew its operating permit. Tate & Lyle Ingredients Americas LLC was issued a Part 70 Operating Permit on June 28, 2004.

Permitted Emission Units and Pollution Control Equipment

This stationary source consists of the following emission units and pollution control devices:

(a) Corn Receiving and Handling Operations, consisting of:

(1) One (1) Railcar Corn Dump Hopper, identified as 12V101, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(2) One (1) Truck Corn Dump Hopper, identified as 12V102, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(6) Five (5) Corn Storage Silos, identified as 13V1, 13V2, 13V3, 13V4 and 13V5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(11) One (1) Bucket Elevator from Corn Cleaner to Steeps, identified as 14U9, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(b) Wet Milling Operations, consisting of:

(1) Twelve (12) Corn Steep Tanks, identified as 14V3 through 14V14, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(2) Two (2) Corn Steep Tanks, identified as 14V15 and 14V16, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(3) Three (3) Corn Steep Tanks, identified as 14V400, 14V401, and 14V402, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) High DS Starch Filter, identified as 18F510, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(5) Three (3) Germ Washing Screens, identified as 15J101, 15J200, and 15J201, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(6) One (1) Light Steepwater Receiver Tank, identified as 14V19, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(7) One (1) High DS Starch Tank, identified as 18V520, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(8) One (1) High DS Starch Wash Water Tank, identified as 18V522, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(9) Seven (7) Grit Starch Separator Screens, identified as 15J15 through 15J19, 15J21, and 15J22, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(10) Six (6) Sixth Stage Fiber Wash Screens, identified as 15J86, 15J87, 15J88, 15J89, 15J220, and 15J221, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(11) One (1) First Stage Germ Wash Screen, identified as 15J100, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(12) One (1) Second Stage Germ Wash Screen, identified as 15J99, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(13) One (1) Second Pass Germ Feed Tank, identified as 15V25, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(14) One (1) Grit Starch Feed Tank, identified as 15V26, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(15) One (1) Fiber Supply Tank, identified as 21V33, constructed in 2000, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(16) One (1) Steeped Corn Surge Hopper, identified as 15V21, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(17) One (1) Steeped Corn Separator, identified as 15J5A, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(18) One (1) First Pass Germ Feed Tank, identified as 15V23, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(19) One (1) Second Stage Germ Wash Screen, identified as 15J53, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(20) Two (2) Second Grind Dewatering Screens, identified as 15J14 and 15J24, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(21) One (1) First Grind Receiver Tank, identified as 15V22, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(22) One (1) Second Grind Receiver Tank, identified as 15V24, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(23) One (1) Third Grind Discharge Tank, identified as 15V27, constructed in 1995, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(24) One (1) Clamshell Wash Water Tank, identified as 15V2, constructed in 1991, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(25) One (1) Clamshell Starch Receiver Tank, identified as 15V42, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(26) One (1) Steeped Corn Tank, identified as 14V17, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(27) One (1) Germ Water Tank, identified as 15V139, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(28) Thirty-six (36) Fiber Wash Screens, identified as 1st Stage through 5th Stage Fiber Wash Screens, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(29) One (1) Dent Starch Slurry Storage Tank, identified as 15V43, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(30) One (1) Steepwater Head Tank, identified as 14V18, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(31) One (1) Mill Acid Tank, identified as 14V96, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(32) One (1) Steep Acid Tank, identified as 14V20, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Wash Box, identified as 15V19, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(34) Five (5) Fiber Wash Receiver Tanks, identified as 15V110 through 15V114, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(35) One (1) Process Water Tank, identified as 15V30, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(36) One (1) Primary Wash Water Tank, identified as 15V41, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(37) One (1) Wash Water Surge Tank, identified as 15V38, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(38) One (1) Primary Feed Tank, identified as 15V34, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(39) One (1) Primary Underflow Tank, identified as 15V35, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(40) One (1) Gluten Thickener Feed Tank, identified as 15V36, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(41) One (1) Heavy Gluten Tank, identified as 15V37, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(42) One (1) Clarifier Feed Tank, identified as 15V40, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(43) One (1) MST Feed Tank, identified as 15V31, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(44) One (1) Gluten Vacuum Filter, identified as 21F6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(45) One (1) Gluten Vacuum Filter Pump, identified as 21C6, constructed in 2006, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(46) One (1) Gluten Vacuum Filter, identified as 21F7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(47) One (1) Gluten Vacuum Filter Pump, identified as 21C7, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(48) One (1) Gluten Vacuum Filter, identified as 21F8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(49) One (1) Gluten Vacuum Filter Pump, identified as 21C8, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(50) One (1) Gluten Vacuum Filter, identified as 21F9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(51) One (1) Gluten Vacuum Filter Pump, identified as 21C9, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(52) One (1) Gluten Vacuum Filter, identified as 21F10, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(53) One (1) Gluten Vacuum Filter Pump, identified as 21C10, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(54) One (1) Fiber Dewatering Screen, identified as 21F100, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(55) One (1) Fiber Dewatering Screen, identified as 21F101, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(56) One (1) Germ Scrubber Water Tank, identified as 21V130, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(57) One (1) Gluten Filter Bowl Drain Tank, identified as 21V159, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(58) One (1) Gluten Filter Wash Bar Trough Drain Tank, identified as 21V59, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(59) One (1) Fiber Filtrate Tank, identified as 21V58, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(60) One (1) Heavy Steepwater Tank, identified as 21V56, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(61) One (1) Monitor Tank, identified as 15V210, constructed in 1990, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Fiber Flash Dryer, identified as 21D501, constructed in 2007. PM and PM_{10} emissions are controlled by product collectors/cyclones 21F501-21F502, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

(3) Two (2) Natural Gas Fired Thermal Oxidation Units, identified as 48F201 and 48F202, constructed in 2006, with a heat input capacity of 5 million Btu per hour, each.

(4) One (1) Corn Cleanings Receiver, identified as 21F304, loaded pneumatically via Corn Cleanings Pneumatic Transfer, identified as 08C304, constructed in 2007, with emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202; before exhausting to stack 17.

(5) One (1) RST Feed Dryer, identified as 21D301, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F301, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(6) One (1) natural gas or biogas fired Gluten Flash Dryer, identified as 48D101, constructed in 2007, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by product collectors/cyclones 48F101-48F102, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(7) One (1) 48D101 Dryer Air Conveying Line, identified as AC8, constructed in 1966, with emissions controlled by integral product collector/baghouse 21F36, and exhausting to stack 145.

(8) One (1) RST Germ Dryer, identified as 21D401, constructed in 2006. PM and PM_{10} emissions are controlled by product collector/cyclone 21F401, then PM, PM_{10} and sulfur dioxide emissions are controlled by scrubber 21F13, then VOC

emissions are controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(9) Two (2) Water Tube Germ Cooler Rotary Airlock Valves, identified as 21D3 (formerly Germ Dryer 21D3), loaded pneumatically via Germ Pneumatic Transfer 21C404 and Germ Cooler Cyclone 21F404, constructed in 2007, with pneumatic transfer blowback air controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(10) One (1) Feed Cooler, identified as 21D8 (formerly Meal Dryer 21D8), constructed in 1966 and modified in 2007. PM and PM_{10} emissions are controlled by product collector/cyclone 21F310, then PM and PM_{10} emissions controlled by scrubber 21F311, exhausting as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501, and/or with PM and PM_{10} emissions controlled by Thermal Oxidation Units 48F201 and 48F202, before exhausting to stack 17.

(11) One (1) Feed Mill, identified as 21G351, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(12) One (1) Feed Mill, identified as 21G352, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(13) One (1) Feed Milling Loadout Conveyor, identified as 21U314, constructed in 2007, with emissions controlled by scrubber 21F312, and exhausting to stack 444.

(14) One (1) Feed Loadout Hopper, identified as 21V125, permitted in 2005, with emissions aspirated to the inlet of Feed Cooler 21D8 to be used as cooling air.

(15) One (1) Feed Storage Bin, identified as 8V121, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F1, and exhausting to stack 110.

(16) One (1) Feed Storage Bin, identified as 8V122, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F2, and exhausting to stack 111.

(17) One (1) Feed Storage Bin, identified as 8V123, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F3, and exhausting to stack 112.

(18) One (1) Feed Storage Bin, identified as 8V124, constructed in 1966, loaded pneumatically, with emissions controlled by bin vent 8F4, and exhausting to stack 113.

(19) One (1) Meal Storage Bin, identified as 8V62, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F62, and exhausting to stack 114.

(20) One (1) Meal Storage Bin, identified as 8V63, loaded pneumatically via Gluten Meal Pneumatic Transfer, identified as 21C15, constructed in 1966, with emissions controlled by bin vent 8F63, and exhausting to stack 115.

(21) One (1) Germ Storage Bin, identified as 8V53, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F53, and exhausting to stack 116.

(22) One (1) Germ Storage Bin, identified as 8V54, loaded pneumatically via Germ Pneumatic Transfer, identified as 21C404, constructed in 1966, with emissions controlled by bin vent 8F54, and exhausting to stack 117.

(23) Two (2) Co-Product Loadout Conveyors, identified as 8U39 and 8U41, constructed in 1966, with emissions aspirated to Meal Storage Bin 8V62, and controlled by bin vent 8F62, and exhausting to stack 114.

(24) Two (2) Air Conveying Lines to Loadout, identified as AC23 and AC24, constructed in 1966, with emissions controlled by integral product receiver/baghouse 12F39, and exhausting to stack 125.

(25) One (1) Rail Loadout Conveyor, identified as 12U11, constructed in 1991, with emissions controlled by baghouse 12F40, and exhausting to stack 3.

(d) Syrup Refining Operations, consisting of:

(1) One (1) HCl Storage Tank (Concentrated), identified as 9V101, constructed in 1995, with emissions controlled by scrubber 9F102, and exhausting to stack 156.

(2) One (1) Acid Reject Flash Chamber, identified as 18V312, constructed in 1966, with emissions uncontrolled, and exhausting to stack 320.

(3) One (1) Jet Conversion Flash Chamber, identified as 18V413, constructed in 1966, with SO_2 and VOC emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17 (see Section D.2 for the control device monitoring requirements).

(4) One (1) Soda Ash Storage Tank, identified as 9V144, loaded pneumatically via Soda Ash Unloading System, identified as 9C40, constructed in 1966, with emissions controlled by eductor/scrubber 9E1, and exhausting to stack 149.

(5) One (1) Filteraid Storage Silo, identified as 9V31, loaded pneumatically via Filteraid Unloading System, identified as 9C31, constructed in 1966, with emissions controlled by bin vent 9F31, and exhausting to stack 123.

(6) One (1) Filteraid Conveying System to Precoat Makeup Tank, identified as 09C27 and 18C18, constructed in 1966, with emissions controlled by integral product receiver/baghouse 18F118 and air washer 18F218, and exhausting to stack 129.

(7) One (1) Powdered Carbon Storage Silo, identified as 9V30, loaded pneumatically via Powdered Carbon Unloading System, identified as 9C30, constructed in 1966, with emissions controlled by cyclone 09F36, baghouse 09F30, and air washer 09F1, and exhausting to stack 124.

(e) Starch Modification Operations, consisting of:

(1) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V115, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 11.

(2) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V116, constructed in 1966 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 12.

(3) One (1) Non-PO Reactor/Oxidized Starch Reactor, identified as 45V222, constructed in 1973 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 31.

(4) One (1) PO Reactor, identified as 45V223, constructed in 1973, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(5) One (1) PO Reactor, identified as 45V240, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(6) One (1) PO Reactor, identified as 45V241, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(7) One (1) PO Reactor, identified as 45V242, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(8) One (1) PO Reactor, identified as 45V243, constructed in 1986, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(9) One (1) PO Reactor, identified as 45V246, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(10) One (1) PO Reactor, identified as 45V247, constructed in 1988, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(11) One (1) PO Reactor, identified as 45V248, constructed in 1991, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(12) One (1) PO Reactor, identified as 45V270, constructed in 1995, with emissions controlled by scrubber 45F212, exhausting to stack 50.

(13) One (1) PO Reactor, identified as 45V271, constructed in 1995, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(14) One (1) PO Reactor, identified as 45V280, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(15) One (1) PO Reactor, identified as 45V281, constructed in 2002, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(16) Five (5) Propylated Starch Reactors, identified as 45V292, 45V293, 45V294, 45V295, and 45V296, constructed in 2007, with emissions controlled by scrubber 45F212, and exhausting to stack 50.

(17) One (1) Oxidized Starch Reactor, identified as 18V173, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(18) One (1) Oxidized Starch Reactor, identified as 18V178, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(19) One (1) Oxidized Starch Reactor, identified as 18V180, constructed in 1994 and approved in 2009 for modification and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(20) One (1) Oxidized Starch Reactor, identified as 18V174, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 41.

(21) One (1) Oxidized Starch Reactor, identified as 18V175, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 43.

(22) One (1) Oxidized Starch Reactor, identified as 18V179, constructed in 1994 and approved in 2010 for modification, with emissions uncontrolled, and exhausting to stack 42.

(23) One (1) Tri-Polyphosphate Storage Bin, identified as 9V103, constructed in 1988, with emissions controlled by bin vent 9F103, and exhausting to stack 68.

(24) One (1) Sodium Sulfate Storage Bin, identified as 45V250, loaded pneumatically via Sodium Sulfate Unloading System, identified as 09C200 and 09F200, constructed in 1985, with emissions controlled by two bin vents, 45F25 and 45F25A, and exhausting to stack 64.

(25) One (1) Flash 1 Filtrate Reineveldt Centrifuge, identified as 40Y1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(26) One (1) Flash 1 Slurry Hold Tank, identified as 40V1, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(27) One (1) Flash 1 Starch Hold Tank, identified as 40V50, constructed in 1996, with emissions uncontrolled, and exhausting to stack 289.

(28) One (1) Dryer Starch Feed Conveyor/Flash 1 Paddle Mixer, identified as 40U2, constructed in 1985, with emissions uncontrolled, and exhausting to stack 315.

(29) Two (2) Flash 2 Slurry Hold Tanks, identified as 40V20 and 40V21, constructed in 1990, with emissions uncontrolled, and exhausting to stack 80.

(30) Three (3) Flash 2 Larox Filters, identified as 40F51, 40F52, and 40F53, constructed in 1995, with emissions uncontrolled, and exhausting to stack 249.

(31) One (1) Flash 2 Larox Filter, identified as 40F54, constructed in 2002, with emissions uncontrolled, and exhausting to stack 249.

(32) One (1) Flash 2 Air Release Tank, identified as 40V15, constructed in 1995, with emissions uncontrolled, and exhausting to stack 250.

(33) One (1) Flash 2 Air Release Tank, identified as 40V16, constructed in 2002, with emissions uncontrolled, exhausting to stack 251.

(34) One (1) Dryer Starch Feed Conveyor/Flash 2 Paddle Mixer, identified as 40U23, constructed in 1995, with emissions uncontrolled, exhausting to stack 249.

(35) Two (2) Flash 3 Slurry Hold Tanks, identified as 43V71 and 43V72, constructed in 1995, with emissions uncontrolled, and exhausting to stack 273.

(36) Three (3) Flash 3 Larox Filters, identified as 43F71, 43F72, and 43F73, constructed in 1995, with emissions uncontrolled, and exhausting to stack 260.

(37) One (1) Flash 3 Larox Air Release Tank, identified as 43V85, constructed in 1995, with emissions uncontrolled, and exhausting to stack 261.

(38) One (1) Flash 3 Larox Air Release Tank, identified as 43V86, constructed in 1995, with emissions uncontrolled, and exhausting to stack 318.

(39) Two (2) Spray Dryer 1 Feed Tanks, identified as 30V1 and 30V2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 195.

(40) Three (3) Spray Dryer 1 Process Tanks, identified as 40V11, 40V12, and 40V14, constructed in 1988, with emissions uncontrolled, and exhausting to stack 222.

(41) One (1) Spray Dryer 2 Feed Tank, identified as 46V297, constructed in 2006, with emissions uncontrolled, and exhausting to stack 434.

(42) One (1) Spray Dryer 2 Sweco Tank, identified as 46V201, constructed in 2006, with emissions uncontrolled, and exhausting to stack 436.

(43) One (1) Spray Dryer 2 Waste Surge Tank, identified as 46V213, constructed in 2006, with emissions uncontrolled, and exhausting to stack 424.

(44) One (1) Spray Dryer 2 Under Flow Tank, identified as 46V204, constructed in 2006, with emissions uncontrolled, and exhausting to stack 435.

(45) Four (4) Belt Dryer Feed Tanks, identified as 45V117 through 45V120, constructed in 1966, with emissions uncontrolled, and exhausting to stack 180.

(f) Starch Reaction Operations, consisting of:

(1) One (1) Starch Feed Bin, identified as 33V1, constructed in 1995, with emissions controlled by bin vent 33F1, and exhausting via vent 236 to stack 355.

(2) One (1) Starch Feed Bin, identified as 33V2, constructed in 1995, with emissions controlled by bin vent 33F2, and exhausting via vent 237 to stack 355.

(3) One (1) Catalyst Bin, identified as 33V5, constructed in 1995, with emissions controlled by bin vent 33F5, and exhausting to stack 239.

(4) One (1) Low Pressure Dry Starch Reactor, identified as 33R1, constructed in 1995, with emissions controlled by baghouses 33F101 and 33F102, and exhausting to stack 238.

(5) One (1) High Pressure Dry Starch Reactor, identified as 33R2, constructed in 1995, with emissions controlled by baghouses 33F201 and 33F202, and exhausting to stack 240.

(6) One (1) Reactor Surge Bin, identified as 50V61, loaded pneumatically via Pneumatic Conveyor, identified as 33C8, constructed in 1997, with emissions controlled by bin vent 50F161, and exhausting via vent 241 to stack 361.

(7) One (1) Reactor Surge Bin, identified as 50V62, loaded pneumatically via Pneumatic Conveyor, identified as 33C4, constructed in 1997, with emissions

controlled by bin vent 50F162, and exhausting via vent 242 to stack 361.

(8) One (1) Dry Starch Product Screening Receiver, identified as 50F45, constructed in 1995, with emissions controlled by integral product receiver/baghouse 50F45, and exhausting via vent 262 to stack 355.

(9) One (1) Dry Starch Product Screening Receiver, identified as 50F48, constructed in 1997, with emissions controlled by integral product receiver/baghouse 50F48, and exhausting via vent 243 to stack 355.

(11) One (1) Dry Starch Blend Bin, identified as 33V42, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F42, and exhausting via vent 244 to stack 355.

(12) One (1) Dry Starch Blend Bin, identified as 33V43, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and 50C46, constructed in 1995, with emissions controlled by bin vent 33F43, and exhausting via vent 245 to stack 355.

(13) One (1) Dry Starch Blend Bin, identified as 33V40, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 3365, constructed in 1995, with emissions controlled by bin vent 33F40, and exhausting via vent 246 to stack 355.

(14) One (1) Dry Starch Blend Bin, identified as 33V41, loaded pneumatically via Pneumatic Conveyors, identified as 50C47 and Blower 3365, constructed in 1995, with emissions controlled by bin vent 33F41, and exhausting via vent 247 to stack 355.

(g) Starch Drying and Handling Operations, consisting of:

(1) One (1) Adipic Acid Storage Bin, identified as 43V90, loaded pneumatically via truck unloading, constructed in 1996, with emissions controlled by bin vent 43F90, and exhausting to stack 274.

(2) One (1) Starch Flash Dryer #1, identified as 40D1, constructed in 1986, with a heat input capacity of 14.4 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F1 and 40F2 and scrubber 40F3, and exhausting to stack 69.

(3) One (1) Pneumatic Product Transfer, identified as 40F7, constructed in 1986, with emissions controlled by integral product receiver/baghouse 40F7, and exhausting to stack 70.

(4) One (1) Pneumatic Conveying to Mill Feed Receiver, identified as 25F1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F1, and exhausting to stack 147.

(5) One (1) Belt Dryer Mill, identified as 25G1, constructed in 1968, with emissions controlled by integral product receiver/baghouse 25F2, and exhausting to stack 146.

(6) One (1) Starch Storage Bin #8, identified as 7V8, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with

emissions controlled by integral product receiver/bin vent 7F8, and exhausting to stack 71.

(7) One (1) Starch Storage Bin #9, identified as 7V9, loaded pneumatically via Pneumatic Conveyors, identified as 40C5 and 25C1, constructed in 1986, with emissions controlled by integral product receiver/bin vent 7F9, and exhausting to stack 72.

(8) One (1) Starch Flash Dryer #2, identified as 40D20, constructed in 1990 and modified in 1991, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 40F20 through 40F25 and scrubber 40F26, and exhausting to stack 73.

(9) One (1) Grinder Feed Collector, identified as 40F27, constructed in 1990, and exhausting to the intake of bins 7V20, 7V21, 7V22 and 7V23.

(10) One (1) Starch Grinder/Mill #1, identified as 40G20, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F28, and exhausting via vent 286 to stack 360.

(11) One (1) Starch Grinder/Mill #2, identified as 40G21, constructed in 1990, with emissions controlled by integral product receiver/baghouse 40F29, and exhausting via vent 287 to stack 360.

(12) One (1) Starch Product Bin #20, identified as 7V20, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F20, and exhausting to stack 76.

(13) One (1) Starch Product Bin #21, identified as 7V21, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F21, and exhausting to stack 77.

(14) One (1) Starch Product Bin #22, identified as 7V22, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1992, with emissions controlled by bin vent 7F22, and exhausting to stack 78.

(15) One (1) Starch Bin #33, identified as 7V23, loaded pneumatically via Pneumatic Conveyor, identified as 40C31, constructed in 1995, with emissions controlled by bin vent 7F33, and exhausting to stack 267.

(16) One (1) Starch Flash Dryer #3, identified as 43D71, constructed in 1995, with a heat input capacity of 40 MMBtu/hr, with emissions controlled by integral product collector/cyclones 43F81 through 43F86 and scrubber 43F80, and exhausting to stack 265.

(17) One (1) Flash #3 Mill, identified as 40G88, constructed in 1996, with emissions controlled by integral product receiver/baghouse 40F88, and exhausting to stack 266.

(18) One (1) Starch Bin #34, identified as 7V34, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F34, and exhausting to stack 268.

(19) One (1) Starch Bin #35, identified as 7V35, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1995, with emissions controlled by bin vent 7F35, and exhausting to stack 269.

(20) One (1) Starch Blend Bin #91, identified as 7V91, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F91, and exhausting to stack 345.

(21) One (1) Starch Blend Bin #92, identified as 7V92, loaded pneumatically via Pneumatic Conveyor, identified as 43C75, constructed in 1999, with emissions controlled by bin vent 7F92, and exhausting to stack 346.

(22) One (1) Starch Roll Dryer #1, identified as 41D1, constructed in 1986, with emissions uncontrolled, and exhausting to stack 91.

(23) One (1) Starch Roll Dryer #2, identified as 41D2, constructed in 1986, with emissions uncontrolled, and exhausting to stack 92.

(24) One (1) Starch Roll Dryer #3, identified as 41D3, constructed in 1986, with emissions uncontrolled, and exhausting to stack 93.

(25) One (1) Starch Roll Dryer #4, identified as 41D4, constructed in 1993, with emissions uncontrolled, and exhausting to stack 94.

(26) One (1) Starch Roll Dryer #5, identified as 41D5, constructed in 1995, with emissions uncontrolled, and exhausting to stack 232.

(27) One (1) Starch Roll Dryer #6, identified as 41D6, constructed in 1995, with emissions uncontrolled, and exhausting to stack 233.

(28) One (1) Starch Roll Dryer #7, identified as 41D7, constructed in 1997, with emissions uncontrolled, and exhausting to stack 234.

(29) One (1) Starch Roll Dryer #8, identified as 41D8, constructed in 2000, with emissions uncontrolled, and exhausting to stack 235.

(30) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F200, constructed in 1986, with emissions controlled by product receiver/baghouse 41F200, and exhausting to the intake of mill 41G200.

(31) One (1) Roll Dryer Mill, identified as 41G200, constructed in 1986, with emissions controlled by integral product receiver/baghouse 41F210, and exhausting via vent 96 to stack 355.

(32) One (1) Pneumatic Product Transfer Roll Dryer, identified as 41F201, constructed in 1993, with emissions controlled by product receiver/baghouse 41F201, and exhausting to the intake of mill 41G201.

(33) One(1) Roll Dryer Mill, identified as 41G201, constructed in 1993, with emissions controlled by integral product receiver/baghouse 41F211, and exhausting via vent 100 to stack 355.

(34) One (1) Product Bin #10, identified as 41V10, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F10, and exhausting to stack 97.

(35) One (1) Product Bin #11, identified as 41V11, loaded pneumatically via Pneumatic Conveyor, identified as 41C220, constructed in 1993, with emissions controlled by bin vent 41F11, and exhausting to stack 98.

(36) One (1) Bulk Bag Dump Station, identified as 41F13, constructed in 2000, with emissions controlled by bin vent 41F13, and exhausting indoors to stack 344.

(37) One (1) Spray Dryer #1, identified as 30D1, constructed in 1984, with a heat input capacity of 24 MMBtu/hr, with emissions controlled by integral product collector/cyclones 30F7 and 30F8 and product receivers/baghouses 30F2 and 30F3, and exhausting to stack 82.

(38) One (1) Product Transfer to Bins #14 and #15, identified as 41C30, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F14 and 41F15, respectively, and exhausting via vent 85 ~~in~~to stack 355.

(39) One (1) Product Bin #14, identified as 41V14, constructed in 1987, with emissions controlled by bin vent 41F16, and exhausting to stack 87.

(40) One (1) Product Bin #15, identified as 41V15, constructed in 1987, with emissions controlled by bin vent 41F17, and exhausting to stack 88.

(41) One (1) Regular Starch Belt Dryer D4, identified as 16D4, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F26 and 17F78, and exhausting to stack 177.

(42) One (1) Special Starch Belt Dryer D5, identified as 16D5, constructed in 1966, with emissions controlled by the rotoclone scrubbers 16F27 and 17F79, and exhausting to stack 177.

(43) One (1) Belts Product Conveying Mill Product to Bins #3, #4, and #5, identified as 7F25, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F25, and exhausting to stack 103.

(44) One (1) Belts Product Conveying Mill Product to Bins #1, #2, and #3, identified as 7F26, constructed in 1966, with emissions controlled by integral product collector/baghouse 7F26, and exhausting to stack 104.

(45) One (1) Product Bin #1, identified as 7V50, constructed in 1966, with emissions controlled by bin vent 7F73, and exhausting to stack 109.

(46) One (1) Product Bin #2, identified as 7V49, constructed in 1966, with emissions controlled by bin vent 7F72, and exhausting to stack 108.

(47) One (1) Product Bin #3, identified as 7V48, constructed in 1966, with emissions controlled by bin vent 7F71, and exhausting to stack 107.

(48) One (1) Product Bin #4, identified as 7V47, constructed in 1966, with emissions controlled by bin vent 7F70, and exhausting to stack 106.

(49) One (1) Product Bin #5, identified as 7V46, constructed in 1966, with emissions controlled by bin vent 7F69, and exhausting to stack 105.

(50) One (1) Spray Agglomeration System, identified as 50D101, constructed in 2001, with a heat input capacity of 6.2 MMBtu/hr, with emissions controlled by integral product collector/cyclones 50F111 and 50F112; and product receiver/baghouse 50F102, and exhausting via vent 349 to stack 361.

(53) One (1) Agglomeration Blender Receiver/Baghouse, identified as 50F106, loaded pneumatically via Pneumatic Conveyor, identified as Feed Blower 50C107, constructed in 2001, with emissions controlled by integral product collector/baghouse 50F106, and exhausting via vent 350 to stack 361.

(54) One (1) Natural Gas Fired Spray Dryer #2, identified as 46D200, constructed in 2006, with a heat input capacity of 25 million Btu per hour, with PM and PM_{10} emissions controlled by cyclones 46F221 through 46F224 and baghouses 46F231 through 46F232, and exhausting via vent 360 to stack 360. Nitrogen oxide (NO_x) emissions are controlled by low-NO_x burners rated at 0.04 lb/MMBtu.

(55) One (1) Product Transfer to Milling, identified as 30F13, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F13, and exhausting to the intakes of bins 41V45, 41V46, 41V47, and 33V44.

(56) One (1) Dryer Mill, identified as 30G1, constructed in 1987, with emissions controlled by integral product receiver/baghouse 30F15, and exhausting via vent 84 to stack 360.

(57) One (1) Product Bin #45, identified as 41V45, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F45, and exhausting to stack 226.

(58) One (1) Product Bin #46, identified as 41V46, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F46, and exhausting to stack 255.

(59) One (1) Product Bin #47, identified as 41V47, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 2006, with emissions controlled by bin vent 41F47, and exhausting via vent 432.

(60) One (1) Starch Product Bin #44, identified as 33V44, loaded pneumatically via Product Transfer to Milling, identified as 30F13, constructed in 1995, with emissions controlled by bin vent 33F44, and exhausting to stack 248.

(61) One (1) Starch Roll Dryer #301, identified as 19D301, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 405A and 405B.

(62) One (1) Starch Roll Dryer #302, identified as 19D302, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 406A and 406B.

(63) One (1) Starch Roll Dryer #303, identified as 19D303, constructed in 2006, with emissions uncontrolled, and exhausting to stacks 407A and 407B.

(64) One (1) Roll Dryer Mill Feed Collector, identified as 19F400, constructed in 2006, with emissions controlled by product collector/baghouse 19F400, and exhausting to the intake of Mill 19G401.

(65) One (1) Roll Dryer System Mill, identified as 19G401, constructed in 2006, with emissions controlled by product collector/baghouse 19F402, and exhausting via vent 366 to stack 404.

(66) One (1) Product Transfer to Bins #17 and #18, identified as 41C35, constructed in 1987, with emissions controlled by integral product collector/baghouses 41F20 and 41F21, respectively, and exhausting via vent 86 to stack 355.

(67) One (1) Product Bin #17, identified as 41V17, constructed in 1987, with emissions controlled by bin vent 41F22, and exhausting to stack 89.

(68) One (1) Product Bin #18, identified as 41V18, constructed in 1987, with emissions controlled by bin vent 41F23, and exhausting to stack 90.

(h) Starch Packaging and Loadout Operations, consisting of:

(1) One (1) Product Bin #6/House Vacuum System, identified as 17V6, constructed in 1984, with emissions controlled by integral product receiver/cyclone 17F5 and baghouse 17F6, and exhausting via vent 190 to stack 177.

(2) One (1) Reprocess Bag Dump, identified as 17U58, constructed in 1997, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(4) One (1) Product Transfer to Main Packer #1, identified as 16F5, constructed in 1966, with emissions controlled by integral product collector/baghouse 16F5, and exhausting to stack 102.

(5) One (1) Cationic Product Receiver for Packer #1, identified as 17F27, constructed in 1966, with emissions controlled by baghouse 17F27, and exhausting to stack 102.

(6) One (1) Packer #1, identified as 17Z38, constructed in 1966, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(8) One (1) Bag Packer #2, identified as 17Z01, constructed in 1995, with emissions controlled by integral product collector/baghouse 17F01, and exhausting to stack 177.

(9) One (1) Bag Packer #2 House Dust Collector, identified as 17F02, constructed in 1995, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(11) One (1) Roll Dried Starch Product Transfer to Bag Packer #3 (41Z5), identified as 41F18, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(12) One (1) Roll Dried Starch Products Bag Packer #3, identified as 41Z5, constructed in 2007, with emissions controlled by baghouse 41F18, and exhausting via vent 186 to stack 355.

(13) One (1) Spray Cook Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F7, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7, and exhausting via vent 184 to stack 355.

(14) One (1) O.S. Starch Product Transfer to Bag Packer #3 (41Z3), identified as 41F181, constructed in 2007, with emissions controlled by baghouse 41F181, and exhausting via vent 184 to stack 355.

(15) One (1) Spray Cook/O.S. Starch Products Bag Packer #3, identified as 41Z3, constructed in 2007, with emissions controlled by integral product collector/baghouse 41F7 or baghouse 41F181, and exhausting via vent 184 to stack 355.

(16) One (1) Malto Product Transfer to Bag Packer #3 (41Z1), identified as 41F182, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(17) One (1) Malto Products Bag Packer #3, identified as 41Z1, constructed in 2007, with emissions controlled by baghouse 41F182, and exhausting via vent 428 to stack 355.

(18) One (1) Dry Starch Reacted Product Transfer to Bag Packer #3 (41Z2), identified as 41F183, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(19) One (1) Dry Starch Reacted Products Bag Packer #3, identified as 41Z2, constructed in 2007, with emissions controlled by baghouse 41F183, and exhausting via vent 429 to stack 355.

(20) One (1) Bag Packer #3 House Dust Collector, identified as 41F186, constructed in 2007, with emissions controlled by baghouse 41F186, and exhausting via vent 430 to stack 355.

(21) One (1) Bag Packer #3 House Dust Collector, identified as 41F44, constructed in 1995, with emissions controlled by baghouse 41F44, and exhausting via vent 256 to stack 361.

(22) One (1) Bag Packer #4, identified as 17Z03, constructed in 1995, with emissions controlled by integral product collector/baghouses 17F03 and 17F04, and exhausting via vent 332 to stack 356.

(23) One (1) House Dust Collection System for Bag Packer #4, identified as 17F15, constructed in 1995, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(25) One (1) Product Transfer for Bulk Bagger #1 (16J44), identified as 16F25, constructed in 1988, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(27) One (1) Product Transfer for Bulk Bagger #2 (17Z14), identified as 17F14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(28) One (1) Bulk Bagger #2, identified as 17Z14, constructed in 1996, with emissions controlled by integral product receiver/baghouse 17F14, and exhausting to stack 254.

(29) One (1) Product Receiver for Bulk Bagger #3, identified as 41F8, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F8, and exhausting via vent 208 to stack 355.

(30) Two (2) Product Receivers for Bulk Bagger #3, identified as 41F81 and 41F82, constructed in 1997, with emissions controlled by integral product receiver/baghouses 41F81 and 41F82, and exhausting via vent 208 to stack 355.

(32) One (1) Bulk #1 Product Screening System, identified as 20F1, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F1, and exhausting via vent 330 to stack 404.

(33) One (1) Bulk #2 Product Screening System, identified as 20F50, constructed in 1997, with emissions controlled by integral product receiver/baghouse 20F50, and exhausting via vent 331 to stack 404.

(34) One (1) Bulk Starch Rail Loadout #1 (Track #9), identified as 20F61, constructed in 1966, with emissions controlled by baghouse 20F61, and exhausting via vent 135 to stack 404.

(35) One (1) Bulk Starch Rail Loadout #2 (Track #10), identified as 20F60, constructed in 1993, with emissions controlled by baghouse 20F60, and exhausting via vent 79 to stack 404.

(36) One (1) Pneumatic Truck Loadout, identified as 20F78 and 20F79, constructed in 1997, with emissions controlled by baghouses 20F78 and 20F79, and exhausting via vent 264 to stack 404.

(37) One (1) Bulk Starch Rail Loadout #3 (J4), identified as 16F100, constructed in 1989, with emissions controlled by baghouse 16F100, and exhausting via vent 183 to stack 177.

(38) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 41F6, constructed in 1988, with emissions controlled by integral product receiver/baghouse 41F6, and exhausting to stack 189.

(i) Boiler Support Facilities, consisting of:

(1) One (1) Coal Storage Silo, identified as 31V3, constructed in 1984, with emissions controlled by bin vent 31F21, and exhausting to stack 203. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(2) One (1) Coal Day Bin, identified as 31V4, constructed in 1984, with emissions controlled by bin vent 31F19, and exhausting to stack 204. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(3) One (1) Coal Day Bin, identified as 31V5, constructed in 1984, with emissions controlled by bin vent 31F20, and exhausting to stack 205. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(4) One (1) GMH Storage Silo, identified as 9V32, loaded pneumatically via Pneumatic Conveyor, identified as 17C19, constructed in 1966, with emissions controlled by bin vent 9F32, and exhausting to stack 119.

(5) One (1) Boiler Ash Pneumatic Transfer to Ash Silo, identified as 31F10, constructed in 1984, with emissions controlled by baghouse 31F22 with ash steam exhauster 31Z3 and air washer 31Z5, and exhausting to stack 200.

(6) One (1) Boiler Ash Silo and Truck Loading, identified as 31V1, constructed in 1984, with emissions controlled by bin vent 31F1, and exhausting to stack 199.

(7) One (1) Utilities Lime Storage Silo, identified as 31V10, constructed in 1984, with emissions controlled by bin vent 31F18, and exhausting to stack 201.

(j) Utility Area, consisting of:

(1) Three (3) natural gas or fuel oil No. 2-fired boilers, identified as 11B1, 11B2 and 11B3, constructed in 1966, each with a heat input capacity of 125 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 197.

(2) One (1) coal-fired boiler, identified as 31B1, constructed in 1984 and modified in 2004, with a heat input capacity of 231 MMBtu/hr, equipped with low-NO_x burners, using natural gas, fuel oil No. 2, or coal and starch mixture as supplement fuels, with emissions controlled by baghouse 31F2, and exhausting to stack 202.

(k) One (1) Wastewater Treatment Anaerobic Digester, identified as 34V10, constructed in 1985. Biogas emissions can be:

(1) Controlled by the use of an alkaline scrubber, identified as 34V11, for controlling H_2S emissions; and

(A) Used as fuel in fiber flash dryer furnace 21B501; and/or

(B) Used as fuel in gluten flash dryer 48D101; and/or

(C) Combusted in one (1) main flare (21Z1), exhausting to stack 271, if the biogas produced exceeds these emissions units' capacity;

or

(2) Combusted in one (1) emergency flare (34Z1), exhausting to stack 272.

Emission Units and Pollution Control Equipment Constructed and Operated without a Permit

The source also consists of the following emission units that were constructed and/or are operating without a permit:

(a) Corn Receiving and Handling Operations, consisting of:

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(f) Starch Reaction Operations, consisting of:

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

(g) Starch Drying and Handling Operations, consisting of:

(51) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(52) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(h) Starch Packaging and Loadout Operations, consisting of:

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F10, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F02, and exhausting to stack 177.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

(26) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(31) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

Emission Units and Pollution Control Equipment Removed From the Source

The following emission units and pollution control devices (as classified in Significant Source Modification No. 157-29633-00003) have been removed from the source and are being removed from the operating permit:

(a) Corn Receiving and Handling Operations, consisting of:

(3) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 1976, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 1966, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Three (3) Corn Transfer Conveyors, identified as 13U6 through 13U8, constructed in 1986, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Weigher, identified as 14V1, constructed in 1986, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) Two (2) Corn Cleaners, identified as 14J4 and 14J5, constructed in 1992, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 21F2, constructed in 1966, with emissions controlled by baghouse 21F2, and exhausting to stack 137. This emissions unit will be shutdown upon operation of the new baghouse 08F300.

(b) Wet Milling Operations, consisting of:

(3) One (1) Germ Distribution Conveyor, identified as 21U23, constructed in 1978, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(4) One (1) Gluten Filter Receiver Tank, identified as 21V57, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(33) One (1) Primary Wash Box, identified as 15V17, constructed in 1966, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(c) Feed/Meal/Germ Production Operations, consisting of:

(1) One (1) Feed Hopper, identified as 21V60, constructed in 1965, with emissions controlled by baghouse 21F14, and exhausting indoors to stack 1. The Feed Hopper 21V60 will be shutdown upon startup and operation of the new germ and meal storage and loadout systems.

(2) One (1) Meal Hopper, identified as 21V61, constructed in 1965, with emissions controlled by baghouse 21F15, and exhausting indoors to stack 2. The Meal Hopper 21V61 will be shutdown upon startup and operation of the new germ and meal storage and loadout systems.

(6) Existing steam tube dryers, constructed in 1966, identified as 21D1 and 21D2, PM and PM_{10} are controlled by scrubber 21F13, and exhausting to stack 17. These dryers will be shutdown after the new germ dryer starts up.

(11) One (1) 21D6 natural gas, No. 2 fuel oil, or biogas fired Feed Dryer, identified as 21D6, constructed in 1966, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions controlled by integral product collector/cyclone 21F26, then sulfur dioxide emissions controlled by scrubber 21F13, before exhausting to stack 17. Dryer 21D6 will be shutdown upon startup and operation of the RST Feed Dryer and Fiber Flash Dryer.

(12) One (1) 21D7 natural gas, No. 2 fuel oil, or biogas fired Feed or Meal Dryer, identified as 21D7, constructed in 1966, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions controlled by integral product collector/cyclone 21F27, then sulfur dioxide emissions controlled by scrubber 21F13, before exhausting to stack 17. Dryer 21D7 will be shutdown upon startup and operation of the RST Feed Dryer and Fiber Flash Dryer.

(13) One (1) 21D8 natural gas, No. 2 fuel oil fired, or biogas fired Meal Dryer or backup Feed Dryer identified as 21D8, constructed in 1966, with a heat input capacity of 30 MMBtu/hr. PM and PM_{10} emissions are controlled by integral product collector/cyclone 21F28, then sulfur dioxide emissions controlled by scrubber 21F13, before exhausting to stack 17. Dryer 21D8 will be shutdown upon startup and operation of the RST Feed Dryer and Fiber Flash Dryer.

(23) One (1) Feed Mill, identified as 21G51, constructed in 1965, with emissions controlled by baghouse 21F37, and exhausting to stack 141. Feed Mill 21G51, controlled by baghouse 21F37, will be shutdown upon startup and operation of the new feed mills.

(24) One (1) Feed Mill, identified as 21G52, constructed in 1965, with emissions controlled by baghouse 21F38, and exhausting to stack 142. Feed Mill 21G52, controlled by baghouse 21F37, will be shutdown upon startup and operation of the new feed mills.

(27) One (1) D6 Dryer Air Conveying Line to Feed Mill, identified as AC6, constructed in 1966, with emissions controlled by baghouse 21F32, and exhausting to stack 143. The AC6 conveying line controlled by baghouse 21F32 will be shutdown upon startup and operation of the RST Feed Dryer and Fiber Flash Dryer.

(28) One (1) D7 Dryer Air Conveying Line to Feed Mill, identified as AC7, constructed in 1966, with emissions controlled by baghouse 21F35, and exhausting to stack 144. The AC7 conveying line controlled by baghouse 21F35 will be shutdown upon startup and operation of the RST Feed Dryer and Fiber Flash Dryer.

(30) One (1) Bag Dump Station, identified as 8V99, constructed in 1966, with emissions controlled by baghouse 8F99, and exhausting indoors to stack 285.

(d) Syrup Refining Operations, consisting of:

(10) One (1) Refinery Reprocess Bag Dump, identified as 45C43, constructed in 2000, with emissions controlled by baghouse 45F43, and exhausting indoors.

The following unlisted insignificant activities have also been removed from the source:

Insignificant Activities

(ii) Facilities in coal preparation plants, including:

(1) One (1) Coal Bucket Elevator, identified as 31U3, constructed in 1984, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(2) One (1) Coal Bucket Elevator, identified as 31U4, constructed in 1984, with emissions uncontrolled, and exhausting to Conveyor 31U5.

The following emission units and pollution control devices (as classified in Significant Source Modification No. 157-29633-00003) were previously permitted and approved for construction, but were never installed at the source and are being removed from the operating permit:

(a) Corn Receiving and Handling Operations, consisting of:

(12) Two (2) Corn Storage Silos, identified as 13VAA and 13VBB, permitted in 2005, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(13) One (1) Vibrating Corn Cleaning System, identified as 14JAA, permitted in 2005, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(14) One (1) Bucket Elevator from Silos to Steeps, identified as 14UBB, permitted in 2005, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(15) One (1) Vibrating Corn Cleaning Pneumatic Transfer, identified as 21FMM, permitted in 2005, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(b) Wet Milling Operations, consisting of:

(60) Five (5) Corn Steep Tanks, identified as 14VDD, 14VEE, 14VFF, 14VGG, and 14VHH, permitted in 2005, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(61) One (1) High DS Starch Vacuum Filter, identified as 18FAA, permitted in 2005, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(63) One (1) proposed Gluten Vacuum Filter, identified as 21F5, permitted in 2006 and 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(64) One (1) proposed Gluten Vacuum Filter Pump, identified as 21C105, permitted in 2006 and 2007, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(67) Fiber Dewatering Screens, identified as 21FNN, permitted in 2005, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(68) 8 Bldg. Process Tanks and screens, permitted in 2005, with emissions controlled by an alkaline scrubber 15F401, and exhausting to stack 17.

(c) Feed/Meal/Germ Production Operations, consisting of:

(35) One (1) Gluten Meal Transfer to Storage Bin, identified as 12FAA, with emissions controlled by baghouse 12FAA, and exhausting to stack 445.

(36) One (1) Gluten Meal Storage Bin, identified as 12VAA, with emissions controlled by baghouse 12FBB, and exhausting to stack 447.

(37) Two (2) Gluten Truck and Rail Loadout Conveyors, identified as 12UAA and 12UBB, with emissions controlled by baghouse 12FBB, and exhausting to stack 447.

(38) One (1) Germ Storage Bin, identified as 12VCC, with emissions controlled by baghouse 12FCC, and exhausting to stack 446.

(39) One (1) Germ Rail Loadout Conveyor, identified as 12UCC, with emissions controlled by baghouse 12FCC, and exhausting to stack 446.

(e) Starch Modification Operations, consisting of:

(47) Propylated Starch Reactor, identified as 45VFF, with VOC emissions controlled by packed bed scrubber 45F212, and exhausting to stack 50.

(48) One (1) Sodium Sulfate Storage Bin, identified as 45BVAA, with emissions controlled by baghouse 45BFAA, and exhausting to stack 400.

(49) Two (2) Flash 4 Slurry Hold Tanks, identified as 44V1 and 44V2, with emissions uncontrolled, and exhausting to stack 419.

(50) Three (3) Flash 4 Larox Filters, identified as 44FKK, 44FLL and 44FMM, with emissions uncontrolled, and exhausting to stack 420.

(51) One (1) Flash 4 Larox Filter Feed Tank, identified as 44V3, with emissions uncontrolled, and exhausting to stack 420.

(52) One (1) Flash 4 Larox Air Release Tank, identified as 44V4, with emissions uncontrolled, and exhausting to stack 421.

(53) One (1) Flash 4 Larox Air Release Tank, identified as 44V5, with emissions uncontrolled, and exhausting to stack 422.

(54) One (1) Spray Dryer #2 Feed Tank, identified as 46V200, with emissions uncontrolled, and exhausting to stack 423.

(58) One (1) Raw Starch Storage Bin, identified as 20VAA, with emissions controlled by baghouse 20FAA, and exhausting to stack 369.

(59) One (1) Raw Starch Storage Bin, identified as 20VBB, with emissions controlled by baghouse 20FBB, and exhausting to stack 370.

(60) One (1) Starch Slurry Storage Tank, identified as 18AVAA, with emissions controlled by baghouse 18AFAA, and exhausting to stack 371.

(61) One (1) Starch Feed Bin, identified as 41VAA, with emissions controlled by baghouse 41FKK, and exhausting to stack 372.

(62) One (1) Starch Weigh Bin, identified as 33VAA, with emissions controlled by baghouse 33FAA, and exhausting to stack 373.

(63) One (1) Dextrin Fluidizer Reactor, identified as 33RAA, with emissions controlled by cyclone 33FBB and baghouse 33FCC, and exhausting to stack 374.

(64) One (1) Dextrin Fluidizer Surge Bin, identified as 33VBB, with emissions controlled by baghouse 33FDD, and exhausting via vent 375 to stack 355.

(65) One (1) Dextrin Blending and Storage Bin, identified as 33VCC, with emissions controlled by baghouse 33FFF, and exhausting via vent 377 to stack 355.

(66) One (1) Dextrin Blending and Storage Bin, identified as 33VDD, with emissions controlled by baghouse 33FGG, and exhausting via vent 378 to stack 355.

(67) One (1) Dextrin Product Screening Receiver, identified as 33FEE, with emissions controlled by baghouse 33FEE, and exhausting via vent 376 to stack 355.

(f) Starch Drying and Handling Operations, consisting of:

(39) One (1) Product Transfer to Bin #KK, identified as 41C30, permitted in 2007, with emissions controlled by baghouse 41FMM, and exhausting via vent 85 to stack 355.

(60) Starch Roll Dryer #12, identified as 19D304 (previously identified as 41D12), permitted in 2007, with emissions uncontrolled, and exhausting to stack 408.

(61) Starch Roll Dryer #13, identified as 19D305 (previously identified as 41D13), permitted in 2007, with emissions uncontrolled, and exhausting to stack 409.

(62) Starch Roll Dryer #14, identified as 19D306 (previously identified as 41D14), permitted in 2007, with emissions uncontrolled, and exhausting to stack 410.

(65) One (1) Starch Blend Bin #1, identified as 07VDD, permitted in 2007, with emissions controlled by baghouse 07FDD, and exhausting to stack 383.

(66) One (1) Starch Blend Bin #2, identified as 07VEE, permitted in 2007, with emissions controlled by baghouse 07FEE, and exhausting to stack 384.

(67) One (1) Product Bin #AA, identified as 07VAA, permitted in 2007, with emissions controlled by baghouse 07FAA, and exhausting to stack 385.

(68) One (1) Product Bin #BB, identified as 07VBB, permitted in 2007, with emissions controlled by baghouse 07FBB, and exhausting to stack 386.

(69) One (1) Product Bin #CC, identified as 07VCC, permitted in 2007, with emissions controlled by baghouse 07FCC, and exhausting to stack 387.

(72) One (1) Mill #3, identified as 44GAA, permitted in 2007, with emissions controlled by baghouse 44FII, and exhausting via vent 389 to stack 388.

(73) One (1) Mill #4, identified as 44GBB, permitted in 2007, with emissions controlled by baghouse 44FJJ, and exhausting via vent 390 to stack 388.

(75) One (1) Natural Gas Fired Spray Dryer #3, identified as 51DAA, permitted in 2007, with heat input capacity of 16 million Btu per hour, with emissions controlled by cyclones 51FAA and 51FBB and baghouse 51FCC, and exhausting via vent 361 to stack 361. Nitrogen oxide (NO_X) emissions are controlled by low-NO_X burners rated at 0.04 lb/MMBtu.

(76) One (1) Natural Gas Fired Starch Flash Dryer #4, identified as 44DAA, permitted in 2007, with heat input capacity of 40 million Btu per hour, with emissions controlled by cyclones 44FAA through 44FFF and wet scrubber 44FGG, and exhausting to stack 388. Nitrogen oxide (NO_X) emissions are controlled by low-NO_X burners rated at 0.04 lb/MMBtu.

(77) One (1) Spray Dryer #2 Mill, identified as 30GAA, permitted in 2007, with emissions controlled by baghouse 30FAA, and exhausting via vent 431 to stack 360.

(79) One (1) Product Bin #KK, identified as 41VKK, permitted in 2007, with emissions controlled by baghouse 41FPP, and exhausting via vent 443.

(g) Starch Packaging and Loadout Operations, consisting of:

(21) One (1) Dextrin/Roll/Spray Cooked Starch Bulk Truck Loadout, identified as 33 Bldg. Truck Loadout (41FLL), with emissions controlled by baghouse 41FLL, and exhausting to stack 189.

(25) One (1) Spray Dryer #3 Packer Baghouse (Pneumatically transferred), identified as 51FDD, with emissions controlled by baghouse 51FDD, and exhausting via vent 362 to stack 361.

(26) Two (2) Packer #6 Product Receivers, identified as 17FBB and 17FDD, with emissions controlled by baghouses 17FBB and 17FDD, and exhausting via vent 380 to stack 356.

(27) One (1) Packer #6 House Dust Collector, identified as 17FCC, with emissions controlled by baghouse 17FCC, and exhausting via vent 381 to stack 356.

(28) One (1) Bulk Bagger #4 Product Receiver, identified as 17FAA, with emissions controlled by baghouse 17FAA, and exhausting via vent 382 to stack 356.

(29) One (1) #3 Bulk Starch Rail Loadout Receiver, identified as 20FCC (previously identified as 20FAA), with emissions controlled by baghouse 20FCC (previously identified as 20FAA), and exhausting via vent 263 to stack 404.

(30) One (1) #3 Bulk Loadout Screening System Filter Receiver, identified as 20FDD (previously identified as 20FBB), with emissions controlled by baghouse 20FDD (previously identified as 20FBB), and exhausting via vent 393 to stack 404.

(31) One (1) Bag Dump Station Bin Vent, identified as 18FBB, with emissions controlled by baghouse 18FBB, and exhausting indoors via vent 426.

Insignificant Activities

The source also consists of the following insignificant activities:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour.

(b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

(d) Combustion source flame safety purging on startup.

(e) Gasoline fuel transfer dispensing operations handling less than or equal to 1,300 gallons per day and filling storage tanks having a capacity equal to or less than 10,500 gallons:

One (1) storage tank, identified as Tank #3, for storage of gasoline, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons. [326 IAC 8-4-6]

(f) Petroleum fuel (other than gasoline) dispensing facilities, having a storage tank capacity less than or equal to 10,500 gallons, and dispensing 3,500 gallons per day or less:

(1) One (1) storage tank, identified as Tank #4, for storage of diesel fuel, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons.

(2) One (1) storage tank, identified as Tank #5, for storage of kerosene, located east of the Bag Storage Building, with a maximum volume of 1,000 gallons.

(3) One (1) storage tank, identified as Utility Diesel Tank, for storage of diesel fuel, located outside northeast of the Utility Building, with a maximum volume of 500 gallons.

(g) The following VOC and HAP storage containers: Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; Vessels storing lubricating oils, hydraulic oils, and machining fluids.

(h) Refractory storage not requiring air pollution control equipment.

(i) Equipment used exclusively to fill drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(j) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(k) Cleaners and solvents having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20˚C (68˚F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(l) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(m) Closed loop heating and cooling systems.

(n) Structural steel and bridge fabrication activities using 80 tons or less of welding consumables. [326 IAC 6-3-2]

(o) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

(p) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is to an on-site sewage treatment facility.

(q) Any operation using aqueous solutions containing less than 1% by weight VOCs excluding HAPs.

(r) Noncontact, forced and induced, draft cooling tower systems not regulated under a NESHAP.

(s) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in other air filtration equipment.

(t) Heat exchanger cleaning and repair.

(u) Process vessel degassing and cleaning to prepare for internal repairs.

(v) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

(w) Coal bunker and coal scale exhausts and associated dust collector vents. [326 IAC 6-3-2]

(x) Asbestos abatement projects regulated by 326 IAC 14-10. [326 IAC 14-10]

(y) Purging of gas lines and vessels that are related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

(z) Equipment used to collect any material that might be released during a malfunction process upset, or spill cleanup, including catch tanks, temporary liquid separator tanks, and fluid handling equipment.

(aa) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(bb) On-site fire and emergency response training approved by the department.

(cc) Emergency generators, including diesel generators not exceeding 1,600 horsepower, as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment Generator, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63, Subpart ZZZZ]

(dd) Purge double block and bleed valves.

(ee) Filter or coalescer media changeout.

(ff) Vents from ash transport systems not operated at positive pressure. [326 IAC 6-3-2]

(gg) A laboratory as defined in 326 IAC 2-7-1(21)(H).

(hh) Research and development activities as defined in 326 IAC 2-7-1(21)(I).

(ii) Facilities in coal preparation plants, including:

(1) One (1) Coal Truck Dump Hopper, identified as 31V2, constructed in 1984, with emissions uncontrolled.

(2) One (1) Coal Bucket Elevator, identified as 31U3, constructed in 2009, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(3) One (1) Coal Bucket Elevator, identified as 31U4, constructed in 2008, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(4) One (1) Coal Feed Conveyor, identified as 31U5, constructed in 1984, with emissions uncontrolled, and exhausting to Silo 31V3 and Bins 31V4 and 31V5.

(5) One (1) Coal Pulverizer, identified as 31G3, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

(6) One (1) Coal Pulverizer, identified as 31G4, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

Under 40 CFR 60, Subpart Y, these are considered existing affected sources.
[40 CFR 60, Subpart Y]

(jj) Propylene oxide storage tank and associated distribution system, including:

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source.
[40 CFR 63, Subpart EEEE]

(kk) Activities with potential emissions within any of the following thresholds: equal to or less than 5 pounds per hour or 25 pounds per day PM_{10}, SO_2, or NO_x; equal to or less than 3 pounds per hour or 15 pounds per day VOC; equal to or less than 25 pounds per day CO; equal to or less than 0.6 tons per year or 3.29 pounds per day Pb; or greater than 1 pound per day but less than 5 pounds per day or 1 ton per year single HAP (and not regulated by a NESHAP):

<u>Buildings 7 and 25 --- Starch Bin Room and Belt Dryer Mill Room:</u>
Belt Dryer Vacuum Filter Pump (S/V 178), identified as 07C3.
Belt Dryer Vacuum Filter Pump (S/V 179), identified as 07C4.

<u>Building 11 --- Utilities and Chemical Unloading Area:</u>
Sulfur Dioxide Storage Tank Three Relief Vents (S/V 170 - S/V 172), identified as 09V2.
Hot Oil Tank, identified as 11V199, with a capacity of 9,200 gallons.
No. 2 Fuel Oil Storage Tank (S/V 316), identified as 11V152, constructed in 1965, with a capacity of 120,000 gallons.

Building 14 --- Steep Tank Area and Chemical Unloading Area:
Steep Evaporator Polish Heater (S/V 306), identified as 1472.
Dent 2 Starch Storage Tank (S/V 304), identified as 15V261.
Dent 3 Starch Storage Tank (S/V 302), identified as 15V244.
Dent 4 Starch Storage Tank (S/V 301), identified as 15V260.
Gluten Storage Tank (S/V 303), identified as 15V245.
Dilute Sulfuric Acid Tank (S/V 51), identified as 15V310.
Dow Quat Tank (S/V 57), identified as 14V112, constructed after 1984, with a capacity of 24,000 gallons.
Dilute Caustic Tank (S/V 58), identified as 14V106.
Dilute Caustic Tank (S/V 59), identified as 14V107.
Dilute Caustic Tank (S/V 150), identified as 09V95.
Bleach Tank (S/V 60), identified as 09V142.
Bleach Tank (S/V 61), identified as 09V143.
Acetic Anhydride Tank (S/V 56), identified as 15V228, with a capacity of 12,000 gallons.
Concentrated Sulfuric Acid Tank (S/V 52), identified as 14V309.
Phosphorus Oxychloride Tank Pressure Relief (S/V 55), identified as 15V229.
Hydrogen Peroxide Tank (S/V 54), identified as 09V232.
Steepwater Loadout (S/V 307), identified as 23L001.
Heavy Steep Water Tank (S/V 298), identified as 23V259.
Waxy Starch Storage (S/V 299), identified as 15V262.
Light Steepwater Storage Tank (S/V 300), identified as 14V21.
Dent 1 Starch Storage Tank (S/V 451), identified as 15V265.
Tri-Polyphosphate Mix Tank (S/V 450), identified as 09V104.

Building 15 --- Wet Mill:
Mill House Steam Condensate Tank (S/V 5), identified as 14V165.
Steam Vapor Condensate Tank (S/V 151), identified as 14V89.
Mill House Good Steam Condensate Tank (S/V 152), identified as 14V132.
Steam Vent (S/V 153), identified as St. Vent.
Starch Reactor (S/V 155), identified as 15V277.

Building 16 --- Belt Dryers:
Belt Dryer Scrubber Pot (S/V 293), identified as 16F26.
Belt Dryer Scrubber Pot (S/V 294), identified as 16F27.

Building 17 --- Starch Warehouse:
Belt Dryer Steam Exhaust (S/V 196), identified as 16V100.
Belt Dryer Scrubber Pot (S/V 295), identified as 17F78.
Belt Dryer Scrubber Pot (S/V 296), identified as 17F79.

Buildings 18, 18B, and 18C --- Refinery Area:
High DS Vacuum Filter Pump (S/V 309), identified as 18P390.
High DS Vacuum Filter Pump (S/V 309), identified as 18P391.
Precoat Vacuum Filter (S/V 163D), identified as 18F56.
Precoat Vacuum Filter (S/V 163E), identified as 18F20.
Precoat Filter Vacuum Pump (S/V 161D), identified as 18C156.
Precoat Filter Vacuum Pump (S/V 161E), identified as 18C20.
Booster Vacuum Pump (S/V 161F), identified as 18C16.
Condensate Receiver (S/V 162A), identified as 18V211.
Condensate Receiver (S/V 162B), identified as 18V221.
Steam Relief Vent (S/V 159), identified as St. Vent.
Steam Relief Vent (S/V 9), identified as 18X81.
Malto Evaporator (S/V 10), identified as 18X31.
Starch Acid Mix Tank (S/V 322), identified as 18V99.

Jet Converter Hotwell (S/V 165C), identified as 18V28.
Belt Dryer Vacuum Cleaning System, identified as 18F37.
Precoat Makeup Tank (S/V 6), identified as 18V78.
Precoat Feed Tank (S/V 323), identified as 18V72.
N Octenyl Succinic Anhydride (NOSA) Tank, identified as 18V197, with a capacity of 13,000 gallons.
Expansion Tank for Hot Oil, identified as 18V200, with a capacity of 2,500 gallons.
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V181.
Non-Propylene Oxide Starch Reactor (S/V 39), identified as 18V182.
Non-Propylene Oxide Starch Reactor (S/V 40), identified as 18V183.
Non-Propylene Oxide Starch Reactor (S/V 401), identified as 18V272.

Building 19 --- Roll Dryer System:
Roll Dryer Supply Tank (S/V 439), identified as 18V166.
Roll Dryer Vacuum Filter (S/V 440), identified as 19F201.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 441), identified as 19C241.
Roll Dryer Feed Tank (S/V 442), identified as 19V205.

Building 21 --- Feed House:
Sump Collection Tank (S/V 305), identified as 21V206.

Building 34 --- Waste Treatment Building:
Bleach Storage Tank (S/V 63), identified as 34V50.
Ammonia Storage Tank (S/V 62), identified as 34V1.
Mannic Polymer Tank (S/V 319), with a capacity of 17,000 gallons.

Building 41 --- Roll Dryers:
Roll Dryer Supply Tank (S/V 193), identified as 41V104.
Roll Dryer Supply Tank (S/V 194), identified as 41V105.
Roll Dryer Filter Feed Tank (S/V 292), identified as 41V101.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 192), identified as 41C110.
Roll Dryer Vacuum Filter Vacuum Pump (S/V 270), identified as 41C111.

Building 45 --- Propylene Oxide Reactors:
Propylene Oxide Reactor (45V223) Pressure Relief Vent (S/V 13), identified as 45V223.
Propylene Oxide Reactor (45V223) Vent Fan (S/V 32), identified as 45C223.
Propylene Oxide Reactor (45V240) Pressure Relief Vent (S/V 15), identified as 45V240.
Propylene Oxide Reactor (45V240) Vent Fan (S/V 16), identified as 45C240.
Propylene Oxide Reactor (45V241) Pressure Relief Vent (S/V 25), identified as 45V241.
Propylene Oxide Reactor (45V241) Vent Fan (S/V 26), identified as 45C241.
Propylene Oxide Reactor (45V242) Pressure Relief Vent (S/V 27), identified as 45V242.
Propylene Oxide Reactor (45V242) Vent Fan (S/V 28), identified as 45C242.
Propylene Oxide Reactor (45V243) Pressure Relief Vent (S/V 29), identified as 45V243.
Propylene Oxide Reactor (45V243) Vent Fan (S/V 30), identified as 45C243.
Propylene Oxide Reactor (45V246) Pressure Relief Vent (S/V 35), identified as 45V246.
Propylene Oxide Reactor (45V246) Vent Fan (S/V 36), identified as 45C246.
Propylene Oxide Reactor (45V247) Pressure Relief Vent (S/V 37), identified as 45V247.
Propylene Oxide Reactor (45V247) Vent Fan (S/V 38), identified as 45C247.
Propylene Oxide Reactor (45V248) Pressure Relief Vent (S/V 217), identified as 45V248.
Propylene Oxide Reactor (45V248) Vent Fan (S/V 218), identified as 45C248.
Propylene Oxide Reactor (45V270) Pressure Relief Vent (S/V 44), identified as 45V270.
Propylene Oxide Reactor (45V270) Vent Fan (S/V 44), identified as 45C270.
Propylene Oxide Reactor (45V271) Pressure Relief Vent (S/V 46), identified as 45V271.
Propylene Oxide Reactor (45V271) Vent Fan (S/V 46), identified as 45C271.
Propylene Oxide Reactor (45V280) Pressure Relief Vent (S/V 336), identified as 45V280.
Propylene Oxide Reactor (45V280) Vent Fan (S/V 336), identified as 45C280.

Propylene Oxide Reactor (45V281) Pressure Relief Vent (S/V 337), identified as 45V281.
Propylene Oxide Reactor (45V281) Vent Fan (S/V 337), identified as 45C281.
Propylene Oxide Reactor (45V292) Pressure Relief Vent (S/V 412), identified as 45V292.
Propylene Oxide Reactor (45V292) Vent Fan (S/V 412), identified as 45C292.
Propylene Oxide Reactor (45V293) Pressure Relief Vent (S/V 413), identified as 45V293.
Propylene Oxide Reactor (45V293) Vent Fan (S/V 413), identified as 45C293.
Propylene Oxide Reactor (45V294) Pressure Relief Vent (S/V 414), identified as 45V294.
Propylene Oxide Reactor (45V294) Vent Fan (S/V 414), identified as 45C294.
Propylene Oxide Reactor (45V295) Pressure Relief Vent (S/V 415), identified as 45V295.
Propylene Oxide Reactor (45V295) Vent Fan (S/V 415), identified as 45C295.
Propylene Oxide Reactor (45V296) Pressure Relief Vent (S/V 416), identified as 45V296.
Propylene Oxide Reactor (45V296) Vent Fan (S/V 416), identified as 45C296.
Propylene Oxide Reactor (45VFF) Pressure Relief Vent (S/V 417), identified as 45VFF.
Propylene Oxide Reactor (45VFF) Vent Fan (S/V 417), identified as 45CFF.
PO Scrubber Sulfuric Acid Tank, identified as 45V212, with a capacity of 25,000 gallons.
Sodium Sulfate Liquid Storage Tank (S/V 65), identified as 45V252.
Sodium Sulfate Liquid Storage Tank (S/V 427), identified as 45BVCC.

Building 46 --- Spray Dryer #2:
Cooker Product Tank (S/V 437), identified as 46V294.
Product Tank (S/V 438), identified as 46V296.

Wet Milling Operations
Corn Heater Tank, identified as 14V600.
Steepwater Evaporator Vacuum Pump, identified as 14P510.
Third Grind Receiver Tank, identified as 15V33.

Feed/Meal/Germ Production Operations
Fiber Flash Dryer Paddle Mixer, identified as 21U501.
RST Feed Dryer Mixer, identified as 21J47.
RST Germ Dryer Discharge Conveyor, identified as 21U403.
Hammermill Feed Drag Conveyor, identified as 21U313.
Hammermill Discharge Transfer Conveyor, identified as 21U315.
Feed Loadout Transfer Conveyor, identified as 21U201.
Product Collector Conveyor, identified as 12U10.
Truck Loadout Conveyor, identified as 12U54.

Syrup Refining Operations
Jet Cooker System, identified as 18V67.
Reject Flash Enzyme Chamber, identified as 18V313.
Malto Evaporator, identified as 18X32.
Vacuum Flash Enzyme Chamber, identified as 18V513.
Syrup Pre-Evaporator, identified as 14X20.

Starch Modification Operations
Flash 3 Larox Filter Feed Tank, identified as 43V73.
Dryer Starch Feed Conveyor/Flash 3 Paddle Mixer, identified as 43U74.
Roll Dryer 1 Reslurry Tank, identified as 41V103.
Roll Dryer 2 Reslurry Tank, identified as 19V200.

Starch Reaction Operations
Dextrin Blender, identified as 33UAA.

Starch Drying and Handling Operations
Agglomerator Feed Blender, identified as 50U106.
Agglomerator #2 Feed Blender, identified as 51UAA.

Existing Approvals

Since the issuance of the Part 70 Operating Permit T157-6009-00003 on June 28, 2004, the source has constructed or has been operating under the following approvals as well:

(a) First Significant Source Modification 157-18847-00003, issued on November 19, 2004;

(b) First Significant Permit Modification 157-19702-00003, issued on November 19, 2004;

(c) Second Significant Permit Modification 157-18915-00003, issued on December 9, 2004;

(d) First Administrative Amendment 157-20551-00003, issued on March 17, 2005;

(e) Prevention of Significant Deterioration (PSD) / Significant Source Modification 157-18832-00003, issued on September 13, 2005;

(f) Third Significant Permit Modification 157-20671-00003, issued on November 1, 2005;

(g) Prevention of Significant Deterioration (PSD) / Significant Source Modification 157-22808-00003, issued on December 20, 2006;

(h) Fourth Significant Permit Modification 157-23285-00003, issued on February 8, 2007;

(i) Fifth Significant Permit Modification 157-23619-00003, issued on March 26, 2008;

(j) First Minor Source Modification 157-27720-00003, issued on May 8, 2009;

(k) First Minor Permit Modification 157-27731-00003, issued on July 2, 2009;

(l) Fourth Significant Source Modification 157-29633-00003, issued on November 10, 2010;

(m) Second Minor Permit Modification 157-29634-00003, issued on November 29, 2010.

(n) Second Minor Source Modification 157-30823-00003, issued on October 31, 2011; and

(o) Sixth Significant Permit Modification 157-30882-00003, issued on January 6, 2012.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Air Pollution Control Justification as an Integral Part of the Process

(a) Tate & Lyle Ingredients Americas LLC had previously submitted information requesting that baghouse 50F106 (previously identified as 50F112), as part of the Starch Drying and Handling Operations, be considered integral to the process for the milling of wet corn. IDEM, OAQ evaluated the justifications and agreed that baghouse 50F106 (previously identified as 50F112) would be considered integral to the process. This evaluation and approval was discussed in Minor Source Modification T157-11907-00003 on May 16, 2000.

(b) Tate & Lyle Ingredients Americas LLC had previously requested a determination of integral control for the following control devices:

(1) Cyclones 40F1, 40F2, 40F20, 40F21, 40F22, 40F23, 40F24, 40F25, 43F81 (previously identified as 40F81), 43F82 (previously identified as 40F82), 43F83 (previously identified as 40F83), 43F84 (previously identified as 40F84), 43F85 (previously identified as 40F85), 43F86 (previously identified as 40F86), 30F7, 30F8, 50F112 (previously identified as 50F110), and 50F111, as part of the Starch Drying and Handling Operations; and

(2) Cyclone 17F5, as part of the Starch Packaging and Loadout Operations.

The Permittee submitted information requesting that these cyclones be considered integral to the process for the milling of wet corn. IDEM, OAQ evaluated the justifications and agreed that these cyclones would be considered integral to the process. This evaluation and approval was discussed in Part 70 Operating Permit T157-6009-00003 on June 28, 2004.

(c) Tate & Lyle Ingredients Americas LLC had previously requested a determination of integral control for the following control devices:

(1) Baghouses 12F39 (previously identified as 21F39) and 21F36, as part of the Feed/Meal/Germ Production Operations;

(2) Baghouse 18F118 (previously identified as 18F18), as part of the Syrup Refining Operations;

(3) Baghouses 50F48 and 50F45, as part of the Starch Reaction Operations;

(4) Baghouses 40F7, 7F8, 7F9, 40F28, 40F29, 40F88, 41F210 (previously identified as 41F1), 41F211 (previously identified as 41F46), 41F45, 30F13, 30F15, 41F14, 41F15, 41F20, 41F21, 7F25, 7F26, 25F2, 25F1, and 50F106 (previously identified as 50F112), as part of the Starch Drying and Handling Operations; and

(5) Baghouses 20F1, 20F50, 16F5, 17F01, 17F03, 17F04, 41F7 (previously identified as 41F7B), 41F18 (previously identified as 41F18B), 41F6, 16F25, 41F8, 41F81, 41F82, and 17F14, as part of the Starch Packaging and Loadout Operations.

The Permittee submitted information requesting that these baghouses be considered integral to the process for the milling of wet corn. IDEM, OAQ evaluated the justifications and agreed that these baghouses would be considered integral to the process. This conclusion was initially determined under Part 70 Operating Permit T157-6009-00003 on June 28, 2004.

(d) Tate & Lyle Ingredients Americas LLC had previously requested a determination of integral control for the following control devices:

(1) Bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, and 8F54 and baghouse 12F40, as part of the Feed/Meal/Germ Production Operations;

(2) Bin vent 9F31 and baghouse 9F30, as part of the Syrup Refining Operations;

(3) Bin vents 45F25, 45F25A, and 9F103, as part of the Starch Modification Operations;

(4) Bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41, as part of the Starch Reaction Operations;

(5) Bin vents 43F90, 7F20, 7F21, 7F22, 7F33, 7F34, 7F35, 7F91, 7F92, 41F10, 41F11, 41F13, 41F22, 41F23, 41F16, 41F17, 33F44, 7F69, 7F70, 7F71, 7F72, and 7F73, as part of the Starch Drying and Handling Operations; and

(6) Bin vents 9F32 and 31F18, as part of the Boiler Support Facilities.

The Permittee submitted information requesting that these bin vents be considered integral to the process for the milling of wet corn. IDEM, OAQ evaluated the justifications and determined that these bin vents would not be considered integral to the process. Therefore, the permitting level would be determined using the potential to emit before these baghouses. This conclusion was initially determined under Part 70 Operating Permit T157-6009-00003 on June 28, 2004.

(e) Tate & Lyle Ingredients Americas LLC has requested determinations of integral control for the following control devices:

(1) Bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, and 8F54, as part of the Feed/Meal/Germ Production Operations;

(2) Bin vent 9F31, as part of the Syrup Refining Operations;

(3) Bin vents 45F25, 45F25A, and 9F103, as part of the Starch Modification Operations;

(4) Bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41, as part of the Starch Reaction Operations;

(5) Bin vents 43F90, 7F20, 7F21, 7F22, 7F33, 7F34, 7F35, 7F91, 7F92, 41F10, 41F11, 41F13, 41F22, 41F23, 41F16, 41F17, 33F44, 7F69, 7F70, 7F71, 7F72, 7F73, as part of the Starch Drying and Handling Operations; and

(6) Bin vents 9F32 and 31F18, as part of the Boiler Support Facilities.

The Permittee has submitted the following justification such that these bin vents be considered as an integral part of the milling of wet corn:

> Dry starch, feed products, and raw materials are pneumatically conveyed into and stored in a large bin equipped with a bin vent. Emissions associated with a bin vent are relatively minor. The primary purpose of the bin vent filter is to minimize product loss and neutralize bin pressure during filling, fluidization, and emptying of the bin. Without the bin vent filter, the bin itself could not be utilized since the costs associated with fine product and raw material losses exiting with the transfer air would be unacceptable.

IDEM, OAQ has evaluated the justification and determined that these bin vents will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before these bin vents. This determination was similar to the initial determination made under Part 70 Operating Permit T157-6009-00003, issued on June 28, 2004.

(f) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that baghouse 9F30, as part of the Syrup Refining Operations, be considered as an integral part of the milling of wet corn:

> The requirement to perform visible emission observations and baghouse pressure drop readings should not be required because baghouse 09F30 is a product receiver and serves a totally enclosed system for rail car unloading of powdered carbon such that no fugitive emissions are generated. IDEM previously determined that similar product receivers are integral to the process. This requirement in T157-6009-00003 was appealed.

IDEM, OAQ has evaluated the justifications and determined that baghouse 9F30 will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouse. This determination was similar to the initial determination made under Part 70 Operating Permit T157-6009-00003, issued on June 28, 2004.

(g) Tate & Lyle Ingredients Americas LLC has requested determinations of integral control for the following control devices:

(1) Cyclones 21F501, 21F502, 21F301, 48F101, 48F102, and 21F401, as part of the Feed/Meal/Germ Production Operations;

(2) Cyclone 09F36, as part of the Syrup Refining Operations; and

(3) Cyclones 46F221, 46F222, 46F223, 46F224, 51FAA, 51FBB, as part of the Starch Drying and Handling Operations.

The Permittee has submitted the following justification that these cyclones be considered as an integral part of the milling of wet corn:

> Cyclones are used at this source for product collection and separation of pneumatically conveyed product. These units operate in series with facilities 21D501, 21D301, 48D101, 21D401, 9C30, 46D200, and 51DAA and collect dried starch product or feed. They are in turn followed in series by a wet scrubber or baghouse for particulate control. The processes can not operate without the use of the cyclones.

IDEM, OAQ has evaluated the justification and determined that these cyclones will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the cyclones.

(h) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that cyclone 33FBB, as part of the Starch Reaction Operations, be considered as an integral part of the milling of wet corn:

> This cyclone recovers dextrin from the hot air stream leaving the dextrin fluidizer reactor and returns it to the dextrin blender as product or for additional reprocessing in the fluidizer. Cyclone 33FBB vents to baghouse 33FCC.

IDEM, OAQ has evaluated the justification and determined that cyclone 33FBB will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the cyclone.

(i) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that baghouses 33F101, 33F102, 33F201, and 33F202, as part of the Starch Reaction Operations, be considered as an integral part of the milling of wet corn:

> These parallel baghouses prevent loss of dextrin product to the atmosphere during the depressurization of dry starch reactors 33R1 and 33R2 after each batch reaction.

IDEM, OAQ has evaluated the justification and determined that these baghouses will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouses.

(j) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that baghouse 33FCC, as part of the Starch Reaction Operations, be considered as an integral part of the milling of wet corn:

> This baghouse recovers dextrin from the hot air stream leaving the dextrin fluidizer reactor and returns it to the dextrin blender as product or for additional reprocessing in the fluidizer.

IDEM, OAQ has evaluated the justification and determined that baghouse 33FCC will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouse.

(k) Tate & Lyle Ingredients Americas LLC has requested determinations of integral control for the following control devices:

(1) Baghouses 41F210, 19F402, and 30FAA, as part of the Starch Drying and Handling Operations; and

(2) Baghouses 17F27, 41F181, 41F182, and 41F183, as part of the Starch Packaging and Loadout Operations.

The Permittee has submitted the following justification that these baghouses be considered as an integral part of the milling of wet corn:

> These baghouses serve as product receivers for processed starch. IDEM previously determined that similar product receivers (41F211, 30F15, 16F5, and 41F7) are integral to the process.

IDEM, OAQ has evaluated the justification and determined that these baghouses will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouses.

(l) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that baghouse 51FDD, as part of the Starch Packaging and Loadout Operations, be considered as an integral part of the milling of wet corn:

> This baghouse serves as a product receiver for the recycle fines into the spray dryer #3 system and is an integral part of the starch agglomeration process.

IDEM, OAQ has evaluated the justification and determined that baghouse 51FDD will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouse.

(m) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that baghouses 20F60, 20F61, 16F100, 20F78, and 20F79, as part of the Starch Packaging and Loadout Operations, be considered as an integral part of the milling of wet corn:

> Dry starch is pneumatically conveyed into rail cars and trucks equipped with a baghouse. The primary purpose of the baghouse is to minimize product loss as bulk trucks and railcars are filled. Without the baghouse, bulk loading of starch should not occur since the costs associated with fine product losses exiting from the bulk truck or railcar with the transfer air would be unacceptable.

IDEM, OAQ has evaluated the justification and determined that these baghouses will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the baghouses.

(n) Tate & Lyle Ingredients Americas LLC has requested determinations of integral control for the following control devices:

(1) Bin vent 12FCC, as part of the Feed/Meal/Germ Production Operations;

(2) Bin vent 45BFAA, as part of the Starch Modification Operations; and

(3) Bin vent 33FAA, as part of the Starch Reaction Operations; and

(4) Bin vents 41F45, 41F46, 41F47, as part of the Starch Drying and Handling Operations.

The Permittee has submitted the following justification that these bin vents be considered as an integral part of the milling of wet corn:

> Dry starch, feed products, and raw materials are pneumatically conveyed into and stored in a large bin equipped with a bin vent. Emissions associated with a bin vent are relatively minor. The primary purpose of the bin vent filter is to minimize product loss and neutralize bin pressure during filling, fluidization, and emptying of the bin. Without the bin vent filter, the bin itself could not be utilized since the costs associated with fine product and raw material losses exiting with the transfer air would be unacceptable.

IDEM, OAQ has evaluated the justification and determined that these bin vents will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the bin vents.

(o) Tate & Lyle Ingredients Americas LLC has submitted the following justification such that bin vents 17F58 and 18FBB, as part of the Starch Packaging and Loadout Operations, be considered as an integral part of the milling of wet corn:

> Bag dump stations enable an employee to manually dump dry recycled products or dry special ingredients into the process. These stations are small in size with low emission rates and do not operate continuously. These units are located indoors and require the employee to stand directly over the bag dump hopper during the operation. Without the bin vent filters on the stations, the hopper would dust excessively, resulting in potential employee exposure and explosion hazards.

IDEM, OAQ has evaluated the justification and determined that bin vents 17F58 and 18FBB will not be considered as an integral part of the milling of wet corn. Therefore, the permitting level will be determined using the potential to emit before the bin vents.

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Emission Units and Pollution Control Equipment Constructed and Operated without a Permit".

IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

The Permittee has agreed that they are major for Part 70 Permits 326 IAC 2-7, Prevention of Significant Deterioration (PSD) 326 IAC 2-2, and Hazardous Air Pollutants 326 IAC 20. Calculations of unrestricted potential to emit have only been performed for emission units that have been constructed and operated prior to receipt of the proper permit. For all other emission units, no source-wide calculations of unrestricted potential to emit have been done for any regulated air pollutants.

County Attainment Status

The source is located in Tippecanoe County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for $PM_{2.5}$.	

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Tippecanoe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Tippecanoe County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions, and the effective date of these rules was July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Tippecanoe County has been classified as attainment or unclassifiable in Indiana for all other regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The source includes a fiber flash dryer furnace, a coal preparation plant, and package boilers with a total heat input rating of greater than 250 million British thermal units per hour (MMBtu/hr) which support the wet corn milling plant.

(1) Since this source is classified as a wet corn milling plant, it is not considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2 or 326 IAC 2-7. Therefore, fugitive emissions from the wet corn milling plant are not counted toward the determination of PSD and Part 70 Permit applicability.

(2) The fugitive emissions from fiber flash dryer furnace 21B501 are not counted toward PSD applicability because the applicable NSPS, Subpart Dc was in effect after August 7, 1980.

(3) The coal preparation plant has the applicable NSPS, Subpart Y that was in effect on August 7, 1980. Therefore, the coal preparation plant's fugitive emissions are counted toward the determination of PSD applicability.

(4) The package boilers with a total heat input rating of greater than 250 MMBtu/hr are considered one of the 28 listed source categories, based on the EPA guidance for “nesting activities”. Therefore, any fugitive emissions from these boilers are counted toward PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	greater than 250
PM_{10}	greater than 250
$PM_{2.5}$	greater than 250
SO_2	greater than 250
VOC	greater than 250
CO	greater than 250
NO_x	greater than 250
GHGs	greater than 100,000

HAPs	tons/year
Propylene Oxide	greater than 25
Acetaldehyde	less than 10
Formaldehyde	greater than 10
Methanol	less than 10
Chloroform	greater than 25
Hydrogen Chloride	greater than 25
Hydrogen Fluoride	less than 10
Cyanide	less than 10
n-Hexane	less than 10
Total	**greater than 25**

The Permittee has agreed that they are major for Part 70 Permits 326 IAC 2-7, Prevention of Significant Deterioration (PSD) 326 IAC 2-2, and Hazardous Air Pollutants 326 IAC 20. No calculations of unrestricted Potential to Emit have been done for any regulated air pollutants.

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each regulated pollutant is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Permit Level Determination – Part 70 (New Units)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

See Appendix B of this Technical Support Document for the detailed emission unit history used to determine the appropriate permit levels under 326 IAC 2-7-10.5. These Part 70 tables reflect the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, each. Additionally, the modification will be incorporated into a Part 70 Operating Permit Renewal since Tate & Lyle Ingredients Americas LLC is renewing its Title V Operating Permit.

Permit Level Determination – PSD (New Units)

See Appendix B of this Technical Support Document for the detailed emission unit history used to determine the appropriate permit levels under 326 IAC 2-2. These PSD tables summarize the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

This modification to an existing major stationary source is not major because the emissions increases are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of specific modifications after 1988 greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of these modifications as follows:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Bulk Bagger #3 (41Z6), Bag Packer #3 House Dust Collector (41F44)	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44), Product Transfer for Bulk Bagger #1 (16F25)	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11	0.11
J-4 Starch Rail Loadout Collector (16F100)	183 to 177	0.17	0.17
33 Bldg Starch Bulk Truck Loadout (41F6)	189	0.04	0.04
Dry Starch Product Screening Receiver (50F48), Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, & 247 to 355	0.55, total	0.55, total
High Pressure Dry Starch Reactor (33R2)	240	0.08	0.08
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Product Transfer for Bulk Bagger #2 (17F14), Bulk Bagger #2 (17Z14)	254	0.08, total	0.08, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11	0.11
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0, total	1.0, total
Bulk Truck Loadout System (20F78/20F79)	264 to 404	0.12	0.12
Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	177	1.24, total	1.24, total
Bag Packer #2 House Dust Collector (17F2), Packer #2 Reject Bag Dump (17V05)	177	1.1, total	1.07, total
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	333	2.2, total	1.07, total
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	350 to 361	0.10, total	0.10, total
Bulk Bag Dump Station (41F13)	344	0.03	0.03

Compliance with these limits, combined with the limited emissions from emission units 33V1, 33V2, 33V5, 33R1, 41D8, 50D101, and the existing 326 IAC 2-2-3 emission limits for baghouse 08F300, will ensure that the potential to emit from each of the 1988, 1995, 1997, and 2000 modifications is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for these modifications.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The tables below summarize the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Plant Area	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	CO	VOC	GHGs	Total HAPs	Worst Single HAP
Corn Receiving & Handling Operations	5.08	5.08	0.34	---	---	---	---	---	---	---
Wet Milling Operations	---	---	---	35.76	---	---	118.25	---	1.15	1.15 (acetaldehyde)
Feed, Meal, & Germ Area	45.27	45.27	18.52	19.46	26.28	54.91	15.53	52,880	1.37	0.79 (hexane)
Syrup Refinery	1.58	1.58	0.90	72.26	---	---	4.40	---	0.07	0.07 (HCl)
Starch Modification	0.74	0.74	0.42	10.75	---	---	62.26	---	55.90	28.27 (chloroform)
Starch Reaction	7.37	7.37	3.73	---	---	---	---	---	---	---
Starch Drying & Handling	194.25	194.25	73.24	0.39	58.95	55.04	10.76	79,055	10.76	9.58 (formaldehyde)
Starch Packaging & Loadout Operations	38.89	33.81	14.67	---	---	---	---	---	---	---
Boiler Support Facilities	2.63	2.63	0.81	---	---	---	---	---	---	---
Utility Area	54.75	54.75	21.79	1214.46	861.55	137.97	9.03	262,585	63.04	52.79 (HCl)
Wastewater Treatment Anaerobic Digester	0.17	0.17	0.17	39.58	11.99	52.39	19.82	91	negl.	negl. (formaldehyde)
Total PTE of Entire Source	**350.74**	**345.66**	**134.60**	**1392.66**	**958.77**	**300.31**	**240.05**	**394,611**	**132.29**	**52.86 (HCl)**
Title V Major Source Thresholds	**NA**	**100**	**100**	**100**	**100**	**100**	**100**	**100,000 CO_2e**	**25**	**10**
PSD Major Source Thresholds	**250**	**250**	**250**	**250**	**250**	**250**	**250**	**100,000 CO_2e**	**NA**	**NA**

negl. = negligible
* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), not particulate matter (PM), is considered as a "regulated air pollutant".
** $PM_{2.5}$ listed is direct $PM_{2.5}$.

This existing stationary source is major for PSD because the emissions of at least one attainment pollutant are greater than two hundred fifty (>250) tons per year, emissions of GHGs are equal to or greater than one hundred thousand (>100,000) tons of CO_2 equivalent emissions (CO_2e) per year, and it is not in one of the twenty-eight (28) listed source categories.

Federal Rule Applicability

CAM:

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:

- has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
- is subject to an emission limitation or standard for that pollutant; and
- uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following tables are used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM:

Section D.1 - Corn Receiving & Handling Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Emission Units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1 through 13V5, 13U6 through 13U8, 14U12, 14J5, 14C300, and 14U9 [PM/PM_{10}]	baghouse 08F300	Y	> 100	5.08	100	Y	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to all emission units controlled by baghouse 08F300 for PM/PM_{10} upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.2 - Wet Milling Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Emission Units[1,2,3] [SO_2]	scrubber 15F401	Y	357.65	0.62	100	Y	N
Emission Units[1,2,3] [VOC]	scrubber 15F401	Y	157.28	111.69	100	Y	Y

[1] This scrubber controls the following emission units from the wet milling operations: 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86 through 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7 through 21F10, 21C7 through 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210 in addition to insignificant activities 14V600, 14P510, and 15V33.
[2] This scrubber controls the following emission units from the feed/meal/germ production operations: 21U403 and 21D3.
[3] This scrubber controls the following emission units from the syrup refining operations: 18V413 and 14X20.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to all emission units controlled by scrubber 15F401 for SO_2 upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Based upon a previous evaluation, the requirements of 40 CFR Part 64, CAM were applicable to to all emission units controlled by scrubber 15F401 for VOC upon issuance of Significant Permit Modification No. 157-30882-00003, pursuant to 40 CFR 64.7(a), unless the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring, pursuant to 40 CFR 64.4(e). An implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring had been included as part of that permit. The Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

Section D.3 - Feed/Meal/Germ Production Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Fiber Flash Dryer 21D501 [PM/PM_{10}]	cyclones 21F501 & 21F502	Y	34.90	17.45	100	N	N
Fiber Flash Dryer 21D501 [PM/PM_{10}]	scrubber 21F13	Y	17.45	4.19	100	N	N
Fiber Flash Dryer 21D501 [SO_2]	scrubber 21F13	Y	75.54	7.55	100	N	N
Fiber Flash Dryer 21D501 [VOC]	scrubber 21F13	Y	27.71	22.93	100	N	N
Fiber Flash Dryer 21D501 [methanol]	scrubber 21F13	Y	< 0.01	< 0.01	10	N	N
Fiber Flash Dryer 21D501 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	4.19	3.35	100	N	N
Fiber Flash Dryer 21D501 [VOC]	RTOs 48F201 & 48F202	Y	22.93	1.15	100	N	N
Fiber Flash Dryer 21D501 [acetaldehyde]	RTOs 48F201 & 48F202	Y	2.21	0.11	10	N	N
Fiber Flash Dryer 21D501 [formaldehyde]	RTOs 48F201 & 48F202	Y	1.62	0.08	10	N	N
Fiber Flash Dryer 21D501 [methanol]	RTOs 48F201 & 48F202	Y	< 0.01	< 0.01	10	N	N
Corn Cleanings Receiver 21F304 [PM/PM_{10}]	scrubber 21F311	Y	17.45	4.19	100	N	N
Corn Cleanings Receiver 21F304 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	4.19	3.35	100	N	N
RST Feed Dryer 21D301 [PM/PM_{10}]	cyclone 21F301	Y	24.38	12.19	100	N	N
RST Feed Dryer 21D301 [PM/PM_{10}]	scrubber 21F13	Y	12.19	2.93	100	N	N
RST Feed Dryer 21D301 [SO_2]	scrubber 21F13	Y	52.78	5.28	100	N	N
RST Feed Dryer 21D301 [VOC]	scrubber 21F13	Y	19.36	16.02	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
RST Feed Dryer 21D301 [methanol]	scrubber 21F13	Y	< 0.01	< 0.01	10	N	N
RST Feed Dryer 21D301 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	2.93	2.34	100	N	N
RST Feed Dryer 21D301 [VOC]	RTOs 48F201 & 48F202	Y	16.02	0.80	100	N	N
RST Feed Dryer 21D301 [acetaldehyde]	RTOs 48F201 & 48F202	Y	1.54	0.08	10	N	N
RST Feed Dryer 21D301 [formaldehyde]	RTOs 48F201 & 48F202	Y	1.13	0.06	10	N	N
RST Feed Dryer 21D301 [methanol]	RTOs 48F201 & 48F202	Y	< 0.01	< 0.01	10	N	N
Gluten Flash Dryer 48D101 [PM/PM_{10}]	cyclones 48F101, 48F102	Y	164.30	82.15	100	Y	N
Gluten Flash Dryer 48D101 [PM/PM_{10}]	scrubber 21F13	Y	82.15	19.72	100	N	N
Gluten Flash Dryer 48D101 [SO_2]	scrubber 21F13	Y	40.56	4.06	100	N	N
Gluten Flash Dryer 48D101 [VOC]	scrubber 21F13	Y	16.92	13.95	100	N	N
Gluten Flash Dryer 48D101 [methanol]	scrubber 21F13	Y	3.02	2.42	10	N	N
Gluten Flash Dryer 48D101 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	19.72	15.77	100	N	N
Gluten Flash Dryer 48D101 [VOC]	RTOs 48F201 & 48F202	Y	13.95	0.70	100	N	N
Gluten Flash Dryer 48D101 [acetaldehyde]	RTOs 48F201 & 48F202	Y	1.96	0.10	10	N	N
Gluten Flash Dryer 48D101 [formaldehyde]	RTOs 48F201 & 48F202	Y	0.12	0.01	10	N	N
Gluten Flash Dryer 48D101 [methanol]	RTOs 48F201 & 48F202	Y	2.42	0.12	10	N	N
Air Conveying Line AC8 [PM/PM_{10}]	baghouse 21F36	Y	75.60	3.78	100	N	N
RST Germ Dryer 21D401 [PM/PM_{10}]	cyclone 21F401	Y	34.14	17.07	100	N	N
RST Germ Dryer 21D401 [PM/PM_{10}]	scrubber 21F13	Y	17.07	4.10	100	N	N
RST Germ Dryer 21D401 [SO_2]	scrubber 21F13	Y	21.66	2.17	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
RST Germ Dryer 21D401 [VOC]	scrubber 21F13	Y	2.13	1.73	100	N	N
RST Germ Dryer 21D401 [methanol]	scrubber 21F13	Y	< 0.01	< 0.01	10	N	N
RST Germ Dryer 21D401 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	4.10	3.28	100	N	N
RST Germ Dryer 21D401 [VOC]	RTOs 48F201 & 48F202	Y	1.73	0.09	100	N	N
RST Germ Dryer 21D401 [acetaldehyde]	RTOs 48F201 & 48F202	Y	0.12	0.01	10	N	N
RST Germ Dryer 21D401 [formaldehyde]	RTOs 48F201 & 48F202	Y	< 0.01	< 0.01	10	N	N
RST Germ Dryer 21D401 [methanol]	RTOs 48F201 & 48F202	Y	< 0.01	< 0.01	10	N	N
Feed Cooler 21D8 [PM/PM_{10}]	cyclone 21F310	Y	34.90	17.45	100	N	N
Feed Cooler 21D8 [PM/PM_{10}]	scrubber 21F311	Y	17.45	4.19	100	N	N
Feed Cooler 21D8 [PM/PM_{10}]	RTOs 48F201 & 48F202	Y	4.19	3.55	100	N	N
Feed Mills 21G351 [PM/PM_{10}]	scrubber 21F312	Y	17.80	0.89	100	N	N
Feed Mills 21G352 [PM/PM_{10}]	scrubber 21F312	Y	17.80	0.89	100	N	N
Conveyor 21U314 [PM/PM_{10}]	scrubber 21F312	Y	17.80	0.89	100	N	N
Feed Bin 8V121 [PM/PM_{10}]	bin vent 8F1	Y	7.00	0.35	100	N	N
Feed Bin 8V122 [PM/PM_{10}]	bin vent 8F2	Y	7.00	0.35	100	N	N
Feed Bin 8V123 [PM/PM_{10}]	bin vent 8F3	Y	7.00	0.35	100	N	N
Feed Bin 8V124 [PM/PM_{10}]	bin vent 8F4	Y	7.00	0.35	100	N	N
Meal Bin 8V62 [PM/PM_{10}]	bin vent 8F62	Y	7.00	0.35	100	N	N
Meal Bin 8V63 [PM/PM_{10}]	bin vent 8F63	Y	7.00	0.35	100	N	N
Germ Bin 8V53 [PM/PM_{10}]	bin vent 8F53	Y	7.00	0.35	100	N	N
Germ Bin 8V54 [PM/PM_{10}]	bin vent 8F54	Y	7.00	0.35	100	N	N
Conveyors 8U39 and 8U41 [PM/PM_{10}]	bin vent 8F62	Y	7.00	0.35	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Air Conveying Lines AC23 & AC24 [PM/PM_{10}]	baghouse 12F39	Y	18.40	0.92	100	N	N
Loadout Conveyor 12U11 [PM/PM_{10}]	baghouse 12F40	Y	44.60	2.23	100	N	N
Conveyor 21U403, Airlock Valves 21D3	see note[1]	---	---	---	---	---	---

[1] These emission units are controlled by scrubber 15F401. Scrubber 15F401 has been reviewed for CAM applicability in the previous "Section D.2 – Wet Milling Operations" CAM table.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the Gluten Flash Dryer 48D101 for PM/PM_{10} upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.4 - Syrup Refining Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Filteraid Silo 9V31 [PM/PM_{10}]	bin vent 9F31	Y	2.60	0.13	100	N	N
Carbon Silo 9V30 [PM/PM_{10}]	baghouse 09F30	Y	2.60	0.13	100	N	N
Conveying System 09C27/18C18 [PM/PM_{10}]	baghouse 18F118	Y	2.60	0.13	100	N	N
Soda Ash Tank 9V144 [PM/PM_{10}]	eductor 9E1	Y	23.40	1.17	100	N	N
HCl Tank 9V101 [HCl]	scrubber 9F102	Y	0.13	<0.01	10	N	N
Evaporators 18V413, 18X32, and 14X20	see note[1]	---	---	---	---	---	---

[1]These emission units are controlled by scrubber 15F401. Scrubber 15F401 has been reviewed for CAM applicability in the previous "Section D.2 – Wet Milling Operations" CAM table.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units of the Syrup Refining Operations as part of this Part 70 permit renewal.

Section D.5 – Starch Modification Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Sodium Sulfate Bin 45V250 [PM/PM_{10}]	bin vents 45F25, 45F25A	Y	11.00	0.55	100	N	N
Tri-Polyphosphate Bin 9V103 [PM/PM_{10}]	bin vent 9F103	Y	3.80	0.19	100	N	N
45V223, 45V240 through 45V243, 45V246 through 45V248, 45V270, 45V271, 45V280, 45V281, 45V292 through 45V296 [VOC]	scrubber 45F212	Y	154.50	8.69	100	Y	N
45V223, 45V240 through 45V243, 45V246 through 45V248, 45V270, 45V271, 45V280, 45V281, 45V292 through 45V296 [propylene oxide]	scrubber 45F212	Y	154.50	8.69	10	Y	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to all emission units controlled by scrubber 45F212 (facilities 45V223, 45V240 through 45V243, 45V246 through 45V248, 45V270, 45V271, 45V280, 45V281, and 45V292 through 45V296) for VOC and propylene oxide upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.6 – Starch Reaction Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Starch Feed Bin 33V1 [PM/PM_{10}]	bin vent 33F1	Y	25.40	1.27	100	N	N
Starch Feed Bin 33V2 [PM/PM_{10}]	bin vent 33F2	Y	25.40	1.27	100	N	N
Catalyst Bin 33V5 [PM/PM_{10}]	bin vent 33F5	Y	3.00	0.15	100	N	N
Low Pressure Reactor 33R1 [PM/PM_{10}]	baghouses 33F101, 33F102	Y	6.80	0.34	100	N	N
High Pressure Reactor 33R2 [PM/PM_{10}]	baghouses 33F201, 33F202	Y	6.80	0.34	100	N	N
Reactor Surge Bin 50V61 [PM/PM_{10}]	bin vent 50F161	Y	9.60	0.48	100	N	N
Reactor Surge Bin 50V62 [PM/PM_{10}]	bin vent 50F162	Y	9.60	0.48	100	N	N
Screening Receiver 50F45 [PM/PM_{10}]	baghouse 50F45	Y	6.20	0.31	100	N	N
Screening Receiver 50F48 [PM/PM_{10}]	baghouse 50F48	Y	6.20	0.31	100	N	N
Reactor 2 Mill 50G1 [PM/PM_{10}]	baghouse 50F48	Y	6.20	0.31	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Blend Bin 33V42 [PM/PM_{10}]	bin vent 33F42	Y	48.20	2.41	100	N	N
Blend Bin 33V43 [PM/PM_{10}]	bin vent 33F43	Y	48.20	2.41	100	N	N
Blend Bin 33V40 [PM/PM_{10}]	bin vent 33F40	Y	48.20	2.41	100	N	N
Blend Bin 33V41 [PM/PM_{10}]	bin vent 33F41	Y	48.20	2.41	100	N	N
Additives Mill 50G2 [PM/PM_{10}]	baghouse 50F45	Y	48.20	2.41	100	N	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units of the Starch Reaction Operations as part of this Part 70 permit renewal.

Section D.7 – Starch Drying and Handling Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Adipic Acid Bin 43V90 [PM/PM_{10}]	bin vent 43F90	Y	2.60	0.13	100	N	N
Flash Dryer #1 40D1 [PM/PM_{10}]	scrubber 40F3	Y	> 100	5.26	100	Y	N
Product Transfer 40F7 [PM/PM_{10}]	baghouse 40F7	Y	13.20	0.66	100	N	N
Pneumatic Conveying 25F1 [PM/PM_{10}]	baghouse 25F1	Y	4.80	0.24	100	N	N
Dryer Mill 25G1 [PM/PM_{10}]	baghouse 25F2	Y	21.00	1.05	100	N	N
Starch Storage Bin #8 7V8 [PM/PM_{10}]	bin vent 7F8	Y	2.60	0.13	100	N	N
Starch Storage Bin #9 7V9 [PM/PM_{10}]	bin vent 7F9	Y	2.60	0.13	100	N	N
Flash Dryer #2 40D20 [PM/PM_{10}]	scrubber 40F26	Y	> 100	33.03	100	Y	N
Grinder Feed Collector 40F27 [PM/PM_{10}]	bin vent 7F20	Y	7.80	0.39	100	N	N
Starch Grinder #1 40G20 [PM/PM_{10}]	baghouse 40F28	Y	12.20	0.61	100	N	N
Starch Grinder #2 40G21 [PM/PM_{10}]	baghouse 40F29	Y	12.20	0.61	100	N	N
Starch Product Bin #20 7V20 [PM/PM_{10}]	bin vent 7F20	Y	7.80	0.39	100	N	N
Starch Product Bin #21 7V21 [PM/PM_{10}]	bin vent 7F21	Y	7.80	0.39	100	N	N
Starch Product Bin #22 7V22 [PM/PM_{10}]	bin vent 7F22	Y	7.80	0.39	100	N	N
Starch Product Bin #23 7V23 [PM/PM_{10}]	bin vent 7F23	Y	7.80	0.39	100	N	N
Flash Dryer #3 43D71 [PM/PM_{10}]	scrubber 43F80	Y	> 100	33.03	100	Y	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Flash #3 Mill 40G88 [PM/PM_{10}]	baghouse 40F88	Y	20.20	1.01	100	N	N
Starch Bin #34 7V34 [PM/PM_{10}]	bin vent 7F34	Y	17.60	0.88	100	N	N
Starch Bin #35 7V35 [PM/PM_{10}]	bin vent 7F35	Y	17.60	0.88	100	N	N
Starch Transfer Bin #91 7V91 [PM/PM_{10}]	bin vent 7F91	Y	17.60	0.88	100	N	N
Starch Transfer Bin #92 7V92 [PM/PM_{10}]	bin vent 7F92	Y	17.60	0.88	100	N	N
Roll Dryer Mill 41F200 [PM/PM_{10}]	baghouse 41F210	Y	5.60	0.28	100	N	N
Roll Dryer Mill 41G200 [PM/PM_{10}]	baghouse 41F210	Y	24.60	1.23	100	N	N
Roll Dryer Mill 41F201 [PM/PM_{10}]	baghouse 41F211	Y	7.80	0.39	100	N	N
Roll Dryer Mill 41G201 [PM/PM_{10}]	baghouse 41F211	Y	34.20	1.71	100	N	N
Product Bin #10 41V10 [PM/PM_{10}]	bin vent 41F10	Y	2.60	0.13	100	N	N
Product Bin #11 41V11 [PM/PM_{10}]	bin vent 41F11	Y	2.60	0.13	100	N	N
Dump Station 41F13 [PM/PM_{10}]	bin vent 41F13	Y	2.60	0.13	100	N	N
Spray Dryer #1 30D1 [PM/PM_{10}]	baghouses 30F2, 30F3	Y	> 100	19.49	100	Y	N
Product Transfer 41C30 [PM/PM_{10}]	baghouses 41F14, 41F15	Y	7.00	0.35	100	N	N
Product Bin #14 41V14 [PM/PM_{10}]	bin vent 41F16	Y	0.80	0.04	100	N	N
Product Bin #15 41V15 [PM/PM_{10}]	bin vent 41F17	Y	0.80	0.04	100	N	N
Belt Dryer #1 16D4 [PM/PM_{10}]	scrubbers 16F26, 17F78	Y	> 100	17.05	100	Y	N
Belt Dryer #2 16D5 [PM/PM_{10}]	scrubbers 16F27, 17F79	Y	> 100	17.05	100	Y	N
Product Conveying 7F25 [PM/PM_{10}]	baghouse 7F25	Y	2.20	0.11	100	N	N
Product Conveying 7F26 [PM/PM_{10}]	baghouse 7F26	Y	2.20	0.11	100	N	N
Product Bin #1 7V50 [PM/PM_{10}]	bin vent 7F73	Y	5.60	0.28	100	N	N
Product Bin #2 7V49 [PM/PM_{10}]	bin vent 7F72	Y	5.60	0.28	100	N	N
Product Bin #3 7V48 [PM/PM_{10}]	bin vent 7F71	Y	5.60	0.28	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Product Bin #4 7V47 [PM/PM_{10}]	bin vent 7F70	Y	5.60	0.28	100	N	N
Product Bin #5 7V46 [PM/PM_{10}]	bin vent 7F69	Y	5.60	0.28	100	N	N
Spray Agglomerator 50D101 [PM/PM_{10}]	baghouse 50F102	Y	96.40	4.82	100	N	N
Blender Receiver 50F106 [PM/PM_{10}]	baghouse 50F106	Y	8.80	0.44	100	N	N
Spray Dryer #2 46D200 [PM/PM_{10}]	baghouses 46F231, 46F232	Y	> 100	28.95	100	Y	N
Spray Dryer #2 46D200 [NO_x]	low NO_x burners[1]	---	---	---	---	N	---
Product Transfer 30F13 [PM/PM_{10}]	bin vent 41F45	Y	7.00	0.35	100	N	N
Dryer Mill 30G1 [PM/PM_{10}]	baghouse 30F15	Y	83.20	4.16	100	N	N
Product Bin #45 41V45 [PM/PM_{10}]	bin vent 41F45	Y	7.00	0.35	100	N	N
Product Bin #46 41V46 [PM/PM_{10}]	bin vent 41F46	Y	7.00	0.35	100	N	N
Product Bin #47 41V47 [PM/PM_{10}]	bin vent 41F47	Y	7.00	0.35	100	N	N
Product Bin #44 33V44 [PM/PM_{10}]	bin vent 33F44	Y	7.00	0.35	100	N	N
Roll Dryer Mill 19F400 [PM/PM_{10}]	baghouse 19F402	Y	64.00	3.20	100	N	N
Roll Dryer Mill 19G401 [PM/PM_{10}]	baghouse 19F402	Y	64.00	3.20	100	N	N
Product Transfer 41C35 [PM/PM_{10}]	baghouses 41F20, 41F21	Y	7.00	0.35	100	N	N
Product Bin #17 41V17 [PM/PM_{10}]	bin vent 41F17	Y	0.80	0.04	100	N	N
Product Bin #18 41V18 [PM/PM_{10}]	bin vent 41F18	Y	0.80	0.04	100	N	N

[1] These devices for controlling NO_x do not meet the definition of "control device" per 40 CFR 64.1.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to Dryers 40D1, 40D20, 43D71, 30D1, 16D4, 16D5, and 46D200 for PM/PM_{10} upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.8 – Starch Packaging and Loadout Operations

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Vacuum System 17V6 [PM/PM_{10}]	baghouse 17F6	Y	10.20	0.51	100	N	N
Tote Dump 17U58 [PM/PM_{10}]	baghouse 17F58	Y	3.00	0.15	100	N	N
Tote Dump 17U59 [PM/PM_{10}]	baghouse 17F58	Y	3.00	0.15	100	N	N
Product Transfer 16F5 [PM/PM_{10}]	baghouse 16F5	Y	11.00	0.55	100	N	N
Product Receiver 17F27 [PM/PM_{10}]	baghouse 17F27	Y	11.00	0.55	100	N	N
Packer #1 17Z38 [PM/PM_{10}]	baghouse 17F10	Y	> 100	6.96	100	Y	N
Tote Dump 17V04 [PM/PM_{10}]	baghouse 17F10	Y	> 100	6.96	100	Y	N
Packer #2 17Z01 [PM/PM_{10}]	baghouse 17F01	Y	14.80	0.74	100	N	N
Packer #2 Collector 17F2 [PM/PM_{10}]	baghouse 17F2	Y	96.40	4.82	100	N	N
Tote Dump 17V05 [PM/PM_{10}]	baghouse 17F2	Y	96.40	4.82	100	N	N
Product Transfer 41F18 [PM/PM_{10}]	baghouse 41F18	Y	9.60	0.48	100	N	N
Rolled Starch Packer #3 41Z5 [PM/PM_{10}]	baghouse 41F18	Y	9.60	0.48	100	N	N
Product Transfer 41F7 [PM/PM_{10}]	baghouse 41F7	Y	9.60	0.48	100	N	N
Product Transfer 41F181 [PM/PM_{10}]	baghouse 41F181	Y	9.60	0.48	100	N	N
Cooked Starch Packer #3 41Z3 [PM/PM_{10}]	baghouses 41F7, 41F18	Y	9.60	0.48	100	N	N
Product Transfer 41F182 [PM/PM_{10}]	baghouse 41F182	Y	9.60	0.48	100	N	N
Malto Packer #3 41Z1 [PM/PM_{10}]	baghouse 41F182	Y	9.60	0.48	100	N	N
Product Transfer 41F183 [PM/PM_{10}]	baghouse 41F183	Y	9.60	0.48	100	N	N
Dry Starch Packer #3 41Z2 [PM/PM_{10}]	baghouse 41F183	Y	9.60	0.48	100	N	N
Packer #3 Collector 41F186 [PM/PM_{10}]	baghouse 41F186	Y	57.00	2.85	100	N	N
Packer #3 Collector 41F44 [PM/PM_{10}]	baghouse 41F44	Y	60.00	3.00	100	N	N
Packer #4 17Z03 [PM/PM_{10}]	baghouses 17F03, 17F04	Y	17.60	0.88	100	N	N
Packer #4 Collector 17F15 [PM/PM_{10}]	baghouse 17F15	Y	93.80	4.69	100	N	N
Tote Dump 17V06 [PM/PM_{10}]	baghouse 17F15	Y	93.80	4.69	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Product Transfer 16F25 [PM/PM_{10}]	baghouse 16F25	Y	11.00	0.55	100	N	N
Bulk Bagger 16J44 [PM/PM_{10}]	baghouse 16F25	Y	11.00	0.55	100	N	N
Product Transfer 17F14 [PM/PM_{10}]	baghouse 17F14	Y	7.00	0.35	100	N	N
Bulk Bagger 17Z14 [PM/PM_{10}]	baghouse 17F14	Y	7.00	0.35	100	N	N
Product Receiver 41F8 [PM/PM_{10}]	baghouse 41F8	Y	9.60	0.48	100	N	N
Product Receiver 41F81 [PM/PM_{10}]	baghouse 41F81	Y	9.60	0.48	100	N	N
Product Receiver 41F82 [PM/PM_{10}]	baghouse 41F82	Y	9.60	0.48	100	N	N
Bulk Bagger #3 41Z6 [PM/PM_{10}]	baghouse 41F44	Y	60.00	3.00	100	N	N
Product Screening 20F1 [PM/PM_{10}]	baghouse 20F1	Y	87.60	4.38	100	N	N
Product Screening 20F50 [PM/PM_{10}]	baghouse 20F50	Y	87.60	4.38	100	N	N
Rail Loadout 20F61 [PM/PM_{10}]	baghouse 20F61	Y	14.60	0.73	100	N	N
Bulk Rail Loadout 20F60 [PM/PM_{10}]	baghouse 20F60	Y	7.80	0.39	100	N	N
Truck Loadout 20F78, 20F79 [PM/PM_{10}]	baghouses 20F78, 20F79	Y	10.60	0.53	100	N	N
Rail Loadout 16F100 [PM/PM_{10}]	baghouse 16F100	Y	14.60	0.73	100	N	N
Bulk Truck Loadout 33 Bldg [PM/PM_{10}]	baghouse 41F6	Y	3.60	0.18	100	N	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to Packer 17Z38 and Tote Dump 17V04 for PM/PM_{10} upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.9 – Boiler Support Facilities

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Coal Bucket Elevator 31U3 [PM/PM_{10}]	bin vents 31F19/ 31F20/ 31F21	Y	0.88	< 0.88	100	N	N
Coal Bucket Elevator 31U4 [PM/PM_{10}]	bin vents 31F19/ 31F20/ 31F21	Y	0.88	< 0.88	100	N	N
Coal Feed Conveyor 31U5 [PM/PM_{10}]	bin vents 31F19/ 31F20/ 31F21	Y	0.88	< 0.88	100	N	N
Coal Bin 31V3 [PM/PM_{10}]	bin vent 31F21	Y	8.80	0.44	100	N	N
Coal Bin 31V4 [PM/PM_{10}]	bin vent 31F19	Y	6.20	0.31	100	N	N
Coal Bin 31V5 [PM/PM_{10}]	bin vent 31F20	Y	6.20	0.31	100	N	N
GMH Silo 9V32 [PM/PM_{10}]	bin vent 9F32	Y	2.60	0.13	100	N	N
Coal Pulverizer 31G3 [PM/PM_{10}]	boiler 31B1	Y	0.88	<0.88	100	N	N
Coal Pulverizer 31G4 [PM/PM_{10}]	boiler 31B1	Y	0.88	<0.88	100	N	N
Ash Transfer 31F10 [PM/PM_{10}]	baghouse 31F22	Y	15.80	0.79	100	N	N
Ash Loadout 31V1 [PM/PM_{10}]	bin vent 31F1	Y	7.80	0.39	100	N	N
Lime Silo 31V10 [PM/PM_{10}]	bin vent 31F18	Y	5.00	0.25	100	N	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the existing units of the Boiler Support Facilities as part of this Part 70 permit renewal.

Section D.10 – Utility Area

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Coal-Fired Boiler 31B1 [PM/PM_{10}]	baghouse 31F2	Y	> 100	54.75	100	Y	N
Coal-Fired Boiler 31B1 [NO_x]	low NO_x burners[1]	---	---	---	---	N	---

[1] These devices for controlling NO_x do not meet the definition of "control device" per 40 CFR 64.1.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to boiler 31B1 for PM/PM_{10} upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Section D.11 – Wastewater Treatment Anaerobic Digester

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Digester 34V10 [H_2S]	scrubber 34V11	Y	209.36	20.94	100	Y	N
Digester 34V10 [SO_2]	flare 21Z1	Y	20.94 (as H_2S)	39.42	100	N	N

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to digester 34V10 for H_2S upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

NSPS:

(b) 40 CFR 60, Subpart D
The requirements of the New Source Performance Standard for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971, 40 CFR 60.40, Subpart D, are not included in the permit for 11B1, 11B2, 11B3, 31B1, and 21B501 because each of these units has a heat input capacity of less than 250 MMBtu/hr.

(c) 40 CFR 60, Subpart Da
The requirements of the New Source Performance Standard for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, 40 CFR 60.40Da, Subpart Da, are not included in the permit for 11B1, 11B2, 11B3, 31B1, and 21B501 because, pursuant to 40 CFR 60.41Da, these units are not considered electric utility steam generating units.

(d) 40 CFR 60, Subpart Db
The requirements of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.40b, Subpart Db, are not included in this permit for:

(1) Boilers 11B1, 11B2, 11B3, and 21B501 because these units each have heat input capacities of less than 100 MMBtu/hr.

(2) Boiler 31B1 because construction commenced prior to April 12, 1984, as documented in the Agreed Order for A-2439, A-3122, A-3147, and A-3186, approved by IDEM on March 6, 1997.

(e) 40 CFR 60, Subpart Dc

(1) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.40c, Subpart Dc, are not included in this permit for:

(A) Boilers 11B1, 11B2, and 11B3 because these units were constructed prior to June 9, 1989.

(B) Boiler 31B1 because construction commenced prior to April 12, 1984, as documented in the Agreed Order for A-2439, A-3122, A-3147, and A-3186, approved by IDEM on March 6, 1997.

(2) The following facility is subject to the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.40c, Subpart Dc, which is incorporated by reference as 326 IAC 12, because it was constructed after June 9, 1989 and has a heat input capacity of greater than or equal to 10 MMBtu/hr and less than or equal to 100 MMBtu/hr:

(c) Feed/Meal/Germ Production Operations, consisting of:

(2) One (1) natural gas or biogas fired Fiber Flash Dryer Furnace, identified as 21B501, with a heat input capacity of 60 MMBtu/hr, with emissions uncontrolled, and exhausting to stack 17. This emissions unit is part of Fiber Flash Dryer 21D501 for the purposes of NSPS, 40 CFR 60, Subpart Dc. Under 40 CFR 60, Subpart Dc, this is considered an affected source. [40 CFR 60, Subpart Dc]

The entire rule has been included as Attachment A to the permit. Unit 21B501 is subject to the following portions of 40 CFR 60, Subpart Dc:

(1) 40 CFR 60.40c(a), (b), (c), (d);
(2) 40 CFR 60.41c; and
(3) 40 CFR 60.48c(a), (g), (i).

The provisions of 40 CFR 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

(f) 40 CFR 60, Subpart H
The requirements of the Standards of Performance for Sulfuric Acid Plants, 40 CFR 60.80, Subpart H, are not included in this permit because the source does not produce sulfuric acid by the contact process by burning sulfur compounds.

(g) 40 CFR 60, Subpart K
The requirements of the New Source Performance Standard for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, 40 CFR 60.110, Subpart K, are not included for:

(1) All tanks constructed prior to 1973, including No. 2 Fuel Oil Storage Tank, identified as 11V152, because these tanks were constructed prior to the applicability period.

(2) All tanks with volumes less than 151,412 liters (40,000 gallons) because, pursuant to 40 CFR 60.110(a), these tanks are not considered affected facilities.

(3) All tanks that store materials that are not petroleum liquids because, pursuant to 40 CFR 60.110(a), these tanks are not considered affected facilities.

(h) 40 CFR 60, Subpart Ka
The requirements of the New Source Performance Standard for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, 40 CFR 60.110a, Subpart Ka, are not included for:

(1) All tanks constructed prior to 1978 because these tanks were constructed prior to the applicability period.

(2) All tanks with volumes less than 151,412 liters (40,000 gallons) because, pursuant to 40 CFR 60.110a(a), these tanks are not considered affected facilities.

(3) All tanks that store materials that are not petroleum liquids because, pursuant to 40 CFR 60.110a(a), these tanks are not considered affected facilities.

(i) 40 CFR 60, Subpart Kb
The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60.110b, Subpart Kb, are not included for:

(1) All tanks constructed prior to 1984 because these tanks were constructed prior to the applicability period.

(2) All tanks with volumes less than 75 m^3 (19,813 gallons) because, pursuant to 40 CFR 60.110b(a), these tanks are not considered affected facilities.

(3) All tanks that store materials that are not volatile organic liquids because, pursuant to 40 CFR 60.110b(a), these tanks are not considered affected facilities.

(4) All tanks that are used as process tanks because, pursuant to 40 CFR 60.111b, these tanks are excluded from the definition of a storage vessel.

(5) The 24,000-gallon Dow Quat Tank, identified as 14V112, because it has a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa, and therefore, pursuant to 40 CFR 60.110b(b), is not applicable to this Subpart.

(6) The 30,000-gallon Propylene Oxide (PO) Tank, identified as 42V1, because it is designed to operate in excess of 204.9 kPa and without emissions to the atmosphere, and therefore, pursuant to 40 CFR 60.110b(d)(2), is not applicable to this Subpart.

(j) 40 CFR 60, Subpart O
The requirements of the Standards of Performance for Sewage Treatment Plants, 40 CFR 60.150, Subpart O, are not included in this permit because the source's wastewater treatment facility does not utilize an incinerator for burning sewage sludge.

(k) 40 CFR 60, Subpart Y
Tate & Lyle Ingredients Americas LLC is subject to the requirements of the New Source Performance Standards for Coal Preparation Plants, 40 CFR 60.250, Subpart Y, incorporated by reference as 326 IAC 12, because the coal preparation plant has the capacity to process more than 200 tons per day. This Subpart applies to facilities that are part of the coal preparation plant, including: thermal dryers, pneumatic coal-cleaning equipment, coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems. The units subject to this rule include the following:

(i) Boiler Support Facilities, consisting of:

(1) One (1) Coal Storage Silo, identified as 31V3, constructed in 1984, with emissions controlled by bin vent 31F21, and exhausting to stack 203.

Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(2) One (1) Coal Day Bin, identified as 31V4, constructed in 1984, with emissions controlled by bin vent 31F19, and exhausting to stack 204. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

(3) One (1) Coal Day Bin, identified as 31V5, constructed in 1984, with emissions controlled by bin vent 31F20, and exhausting to stack 205. Under 40 CFR 60, Subpart Y, this is considered an affected facility. [40 CFR 60, Subpart Y]

Insignificant Activities

(ii) Facilities in coal preparation plants, including:

(1) One (1) Coal Truck Dump Hopper, identified as 31V2, constructed in 1984, with emissions uncontrolled.

(2) One (1) Coal Bucket Elevator, identified as 31U3, constructed in 2009, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(3) One (1) Coal Bucket Elevator, identified as 31U4, constructed in 2008, permitted in 2011, with emissions uncontrolled, and exhausting to Conveyor 31U5.

(4) One (1) Coal Feed Conveyor, identified as 31U5, constructed in 1984, with emissions uncontrolled, and exhausting to Silo 31V3 and Bins 31V4 and 31V5.

(5) One (1) Coal Pulverizer, identified as 31G3, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

(6) One (1) Coal Pulverizer, identified as 31G4, with starch loaded pneumatically via Pneumatic Conveyor, identified as 09C35, constructed in 1984, with emissions exhausting to Boiler 31B1.

Under 40 CFR 60, Subpart Y, these are considered existing affected sources. [40 CFR 60, Subpart Y]

40 CFR 60, Subpart Y, has been included as Attachment B to the permit. These units are subject to the following portions of 40 CFR 60, Subpart Y:

(1) 40 CFR 60.250;
(2) 40 CFR 60.251;
(3) 40 CFR 60.252(c); and
(4) 40 CFR 60.254(a), (b)(2).

(l) 40 CFR 60, Subpart DD
The requirements of the New Source Performance Standard for Storage Vessels for Petroleum Liquids for Grain Elevators, 40 CFR 60.300, Subpart DD, are not included in this permit because the permanent corn storage capacity associated with the grain storage elevator is less than 1,000,000 bushels.

(m) 40 CFR 60, Subpart VV
The requirements of the New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and On or Before November 7, 2006, 40 CFR 60.480, Subpart VV, are not included in this permit because all affected facilities involved in synthetic organic chemicals manufacturing produce the listed chemicals as by-products that are not sold or used in any other process.

(n) 40 CFR 60, Subpart VVa
The requirements of the New Source Performance Standards for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006, 40 CFR 60.480a, Subpart VVa, are not included in this permit because all affected facilities involved in synthetic organic chemicals manufacturing produce the listed chemicals as by-products that are not sold or used in any other process.

(o) 40 CFR 60, Subpart XX
The requirements of the New Source Performance Standards for Bulk Gasoline Terminals, 40 CFR 60.500, Subpart XX, are not included in this permit because the plant does not meet the definition of a bulk gasoline terminal pursuant to 40 CFR 60.501 because it does not receive gasoline by pipeline, ship, or barge.

(p) 40 CFR 60, Subpart III
The requirements of the New Source Performance Standards for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes, 40 CFR 60.610, Subpart III, are not included in this permit because the source does not utilize air oxidation units.

(q) 40 CFR 60, Subpart NNN
The requirements of the New Source Performance Standards for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60.660, Subpart NNN, are not included in this permit because all distillation process tanks at the source operate as a batch process and therefore are exempt from Subpart NNN, pursuant to 40 CFR 60.660(c)(3).

(r) 40 CFR 60, Subpart RRR
The requirements of the New Source Performance Standards for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes, 40 CFR 60.700, Subpart RRR, are not included in this permit because all reactors at the source operate as a batch process and therefore are exempt from Subpart RRR, pursuant to 40 CFR 60.700(c)(1).

(s) 40 CFR 60, Subpart HHHH
The requirements of the Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units, 40 CFR 60.4101, Subpart HHHH, are not included in the permit for 11B1, 11B2, 11B3, 31B1, and 21B501 because, pursuant to 40 CFR 60.4104(a)(1), these units do not produce electricity for sale.

(t) 40 CFR 60, Subpart IIII
The requirements of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60.4200, Subpart IIII, are not included in this permit because the emergency diesel generator for the wastewater treatment facility was constructed prior to July 11, 2005.

(u) 40 CFR 60, Subpart JJJJ
The requirements of the New Source Performance Standard for Spark Ignition Internal Combustion Engines, 40 CFR 60.4230, Subpart JJJJ, are not included in this permit because the source does not have any spark ignition internal combustion engines.

NESHAP:

(v) 40 CFR 63, Subpart F
The requirements of the National Emissions Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63.100, Subpart F, are not included in this permit because the source does not manufacture as a primary product any of the listed chemicals to which this subpart applies.

(w) 40 CFR 63, Subpart G
The requirements of the National Emissions Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR 63.110, Subpart G, are not included in this permit because the source is not subject to 40 CFR 63, Subpart F, as described above.

(x) 40 CFR 63, Subpart H
The requirements of the National Emissions Standards for Organic Hazardous Air Pollutants for Equipment Leaks, 40 CFR 63.160, Subpart H, are not included in this permit because the source is not subject to a specific subpart in 40 CFR 63 that references Subpart H.

(y) 40 CFR 63, Subpart I
The requirements of the National Emissions Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks, 40 CFR 63.190, Subpart I, are not included in this permit because the source does not operate one of the processes listed in 40 CFR 63.190(b)(1)-(6).

(z) 40 CFR 63, Subpart Q
The requirements of the National Emissions Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers, 40 CFR 63.400, Subpart Q, are not included in this permit because none of the cooling towers at this source are operated with chromium-based water treatment chemicals.

(aa) 40 CFR 63, Subpart R
The requirements of the National Emissions Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), 40 CFR 63.420, Subpart R, are not included in this permit because this plant does not meet the definition of a bulk gasoline terminal pursuant to 40 CFR 63.421 because it does not receive gasoline by pipeline, ship, or barge.

(bb) 40 CFR 63, Subpart T
The requirements of the National Emission Standards for Halogenated Solvent Cleaning, 40 CFR 63.460, Subpart T, are not included in this permit because the degreasers do not use halogenated solvents.

(cc) 40 CFR 63, Subpart OO
The requirements of the National Emissions Standards for Tanks - Level 1, 40 CFR 63.900, Subpart OO, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart OO.

(dd) 40 CFR 63, Subpart SS
The requirements of the National Emissions Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, 40 CFR 63.980, Subpart SS, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart SS.

(ee) 40 CFR 63, Subpart TT
The requirements of the National Emissions Standards for Equipment Leaks - Control Level 1, 40 CFR 63.1000, Subpart TT, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart TT.

(ff) 40 CFR 63, Subpart UU
The requirements of the National Emissions Standards for Equipment Leaks - Control Level 2, 40 CFR 63.1019, Subpart UU, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart UU.

(gg) 40 CFR 63, Subpart VV
The requirements of the National Emission Standards for Oil-Water Separators and Organic-Water Separators, 40 CFR 63.1040, Subpart VV, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart VV.

(hh) 40 CFR 63, Subpart WW
The requirements of the National Emissions Standards for Storage Vessels (Tanks) - Control Level 2, 40 CFR 63.1060, Subpart WW, are not included in this permit because there are no subparts of 40 CFR 60, 61, or 63 applicable to this source that reference Subpart WW.

(ii) 40 CFR 63, Subpart VVV
The requirements of the National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works, 40 CFR 63.1580, Subpart VVV, are not included in this permit because the source's wastewater treatment facility does not meet the definition of a Publicly Owned Treatment Works (POTW), pursuant to 40 CFR 63.1595.

(jj) 40 CFR 63, Subpart CCCC
The requirements of the National Emissions Standards for Hazardous Air Pollutants for the Manufacturing of Nutritional Yeast, 40 CFR 63.2130, Subpart CCCC are not included in this permit because the source does not manufacture nutritional yeast as described in 40 CFR 63.2131(a)(1).

(kk) 40 CFR 63, Subpart EEEE
The source is subject to the requirements of the National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), 40 CFR Part 63.2330, Subpart EEEE, incorporated by reference as 326 IAC 20-83, because propylene oxide meets the definition of "organic liquid", pursuant to 40 CFR 63.2406, and the source's organic liquid distribution (OLD) operations have not been excluded from the affected source, pursuant to 40 CFR 63.2338(c).

Pursuant to 40 CFR 63.2338, the affected source that is subject to the requirements of 40 CFR 63, Subpart EEEE consists of the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The specific facilities include the following:

Insignificant Activities

(ll) Propylene oxide storage tank and associated distribution system, including:

(1) One (1) Propylene Oxide (PO) Tank, identified as 42V1, constructed in 1986, with a capacity of 30,000 gallons.

(2) Distribution system that includes railcar transfer rack, all valves, pumps, and sampling connections associated with the PO distribution system.

Under 40 CFR 63, Subpart EEEE, this is considered an existing affected source. [40 CFR 63, Subpart EEEE]

Pursuant to 40 CFR 63.2382(b)(1), since the affected source has a startup date preceding February 3, 2004, the Initial Notification must have been submitted no later than 120 calendar days after February 3, 2004 (i.e. June 2, 2004). Tate & Lyle Ingredients Americas LLC submitted its Initial Notification on June 2, 2004.

Pursuant to 40 CFR 63.2342(b)(1), the Permittee shall comply with the requirements of 40 CFR 63, Subpart EEEE by February 5, 2007.

The entire rule has been included as Attachment C to the permit. The above emission units are subject to the following portions of Subpart EEEE:

(1) 40 CFR 63.2330;
(2) 40 CFR 63.2334(a);
(3) 40 CFR 63.2338(a), (b), (c), (f);
(4) 40 CFR 63.2342(b)(1), (d);
(5) 40 CFR 63.2343(b), (c), (d);
(6) 40 CFR 63.2350;
(7) 40 CFR 63.2382(a), (b)(1);
(8) 40 CFR 63.2386(a), (b), (c)(1), (c)(2), (c)(3), (c)(4), (c)(10)(i), (d)(4);
(9) 40 CFR 63.2390(a), (d);
(10) 40 CFR 63.2394;
(11) 40 CFR 63.2398;
(12) 40 CFR 63.2402;
(13) 40 CFR 63.2406;
(14) Table 1 to Subpart EEEE of Part 63;
(15) Table 11 to Subpart EEEE of Part 63; and
(16) Table 12 to Subpart EEEE of Part 63.

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart EEEE.

(ll) 40 CFR 63, Subpart FFFF
The requirements of the National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63.2430, Subpart FFFF, are not included in this permit because the source does not produce any of the listed materials to which this subpart applies.

(mm) 40 CFR 63, Subpart GGGG
The requirements of the National Emissions Standards for Hazardous Air Pollutants: Solvent Extraction for Vegetable Oil Production, 40 CFR 63.2830, Subpart GGGG, are not included in this permit because the source does not manufacture vegetable oil.

(nn) The wastewater treatment emergency generator is subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63.6580, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82. This unit is considered an existing emergency stationary RICE.

The specific facilities include the following:

Insignificant Activities

(ee) Emergency generators, including diesel generators not exceeding 1,600 horsepower, as follows:

(1) One (1) emergency diesel generator, installed in 1998, identified as Wastewater Treatment, with a maximum capacity of 317 hp. Under 40 CFR 63, Subpart ZZZZ, this is considered an existing affected source. [40 CFR 63, Subpart ZZZZ]

The entire rule has been included as Attachment D to the permit. The unit is subject to the following portions of Subpart ZZZZ:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585(a), (b);
(3) 40 CFR 63.6590(a)(1)(ii);
(4) 40 CFR 63.6595(a)(1), (c);
(5) 40 CFR 63.6602;
(6) 40 CFR 63.6605;
(7) 40 CFR 63.6612;
(8) 40 CFR 63.6620;
(9) 40 CFR 63.6625(e)(2), (f), (h), (i), (j);
(10) 40 CFR 63.6635;
(11) 40 CFR 63.6640(a), (b), (f)(1);
(12) 40 CFR 63.6645(a)(5);
(13) 40 CFR 63.6650(a), (b), (c)(1) through (c)(5), (d), (f);
(14) 40 CFR 63.6655(a), (d), (e)(2), (f)(1);
(15) 40 CFR 63.6660;
(16) 40 CFR 63.6665;
(17) 40 CFR 63.6670;
(18) 40 CFR 63.6675;
(19) Table 2c to 40 CFR 63 Subpart ZZZZ;
(20) Table 4 to 40 CFR 63 Subpart ZZZZ;
(21) Table 6 to 40 CFR 63 Subpart ZZZZ; and
(22) Table 7 to 40 CFR 63 Subpart ZZZZ.

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZ.

(oo) The EPA has stayed the effectiveness of the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63.7480, Subpart DDDDD, until the proceedings

for judicial review of this rule is complete, or the EPA completes its reconsideration of the rule, whichever is earlier. By this action, EPA is delaying the effective date of the rule, published in the Federal Register on March 21, 2011 (76 FR 15608). This delay of effectiveness will remain in place until the proceedings for judicial review are completed, or the EPA completes its reconsideration of the rule whichever is earlier, and the Agency publishes a notice in the Federal Register announcing that the rule is in effect.

Therefore, the requirements of the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63.7480, Subpart DDDDD are not included in this permit at this time because of this stay of effectiveness.

(pp) The requirements of the following NESHAPs under 40 CFR Part 63 are not included in the permit:

- National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers (40 CFR 63.11193, Subpart JJJJJJ);
- National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (40 CFR 63.11080, Subpart BBBBBB);
- National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities (40 CFR 63.11110, Subpart CCCCCC);
- National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (40 CFR 63.11494, Subpart VVVVVV);
- National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry (40 CFR 63.11579, Subpart BBBBBBB); and
- National Emission Standards for Hazardous Air Pollutants for Area Sources: Prepared Feeds Manufacturing (40 CFR 63.11619, Subpart DDDDDDD).

These NESHAPs apply only to area sources. Since the limited potential to emit of all combined HAPs is greater than 25 tons per year, Tate & Lyle Ingredients Americas LLC is a major source of HAPs; therefore, Tate & Lyle Ingredients Americas LLC is not subject to these NESHAPs.

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)
The source submitted an Emergency Reduction Plan on June 29, 1999, pertaining to the coal boilers and associated scrubbers.

326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.

326 IAC 2-2 (Prevention of Significant Deterioration)
This source was originally constructed in 1966, prior to the promulgation of PSD regulations. At the time the PSD regulations came into effect, the source was an existing PSD major source. Note that the source does not belong to 1 of the 28 PSD source categories with a major source threshold of 100 tons per year since this source is classified as a wet corn milling plant; however, the source operates a coal preparation plant and has fossil fuel-fired boilers with a combined heat input capacity greater than 250 MMBtu/hr.

(a) Corn Receiving and Handling Operations

(1) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 14JAA, 13VAA, 13VBB, 21FMM, and

14UBB were permitted for construction, and PSD BACT requirements for PM and PM_{10} were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, because baghouse 08F300 was constructed to replace several smaller baghouses.

Construction for emission units 14JAA, 13VAA, 13VBB, 21FMM, and 14UBB had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, pursuant to this Operation Permit, all references to these emission units in the BACT requirements for the corn receiving and handling operations have been removed.

(2) Pursuant to PSD/SSM 157-22808-00003 and 326 IAC 2-2-3, issued on December 20, 2006, baghouse 08F300 was constructed to replace several smaller baghouses.

Since PSD BACT was determined for the baghouse as opposed to each individual emission unit controlled by the baghouse, then all existing emission units controlled by baghouse 08F300 are also subject to the BACT requirements. However, the corresponding BACT limit was inaccurately calculated using actual airflow instead of standard airflow. The BACT limit has been corrected, pursuant to Significant Source Modification 157-30564-00003.

The following conditions are the BACT requirements for the corn receiving and handling operations:

(A) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(B) Best available control technology (BACT) for PM and PM_{10} (Filterable and Condensable) shall be the use of baghouse 08F300, and:

(i) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(ii) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(iii) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(iv) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(v) The opacity from the baghouse 08F300 shall not exceed 3%.

(3) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the Permittee shall comply with the following:

(A) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(B) Best available control technology (BACT) for PM and PM_{10} (Filterable and Condensable) shall be the use of baghouse 08F300, and:

(i) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(ii) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(iii) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(iv) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(v) The opacity from the baghouse 08F300 shall not exceed 3%.

Since PSD BACT was determined for the baghouse as opposed to each individual emission unit controlled by the baghouse, then the existing emission limit can be applied to the emission units that were constructed in 2006 and 2007 that are associated to Significant Source Modification 157-30564-00003.

Compliance with these existing 326 IAC 2-2-3 emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render additional requirements of 326 IAC 2-2 not applicable for this modification.

(b) Wet Milling Operations

(1) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 14VDD, 14VEE, 14VFF, 14VGG, 14VHH, 18FAA, "18 Building" Process Tanks, and 21FNN were permitted for construction, and PSD BACT requirements were established for them. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename some of these emission units and to allow construction approval for emission units 21F5 and 21C105.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, pursuant to this Operation Permit, all references to these emission units in the BACT requirements for the wet milling operations have been removed.

(2) Pursuant to PSD/SSM 157-18832-00003, issued on September 13, 2005, emission units 14VAA, 14VBB, 14VCC, 21FAA, and 21CBB were permitted for construction, and PSD BACT requirements for SO_2 and VOC were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename these emission

units and to allow construction approval for emission unit 21D3. The PSD requirements have also since been amended, pursuant to Significant Source Modification 157-30564-00003, in order to include emission units 18V413, 14V600, 14P510, 15V33, 21U403, 18X32, and 14X20, which had already received construction approval and were accounted for in the previous BACT determinations but were inadvertently not included in the permit.

The following conditions are the BACT requirements for the wet milling operations:

(A) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

(i) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210;

(ii) Feed/Meal/Germ Production Operations, including 21D3;

(iii) Syrup Refining Operations, including 18V413; and

(iv) Insignificant Activities, including 14V600, 14P510, 15V33, 21U403, and 14X20.

(B) For these units, the BACT for SO_2 is the use of alkaline scrubber 15F401, and:

(i) When the inlet SO_2 concentration to the scrubber is greater than 150 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr SO_2.

(ii) When the inlet SO_2 concentration to the scrubber is 150 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of less than 15 ppmvw, and the scrubber outlet SO_2 emission rate shall not exceed 8.17 lbs/hr.

(C) For these units, the BACT for VOC is the use of an absorption system using wet scrubber 15F401, and:

(i) The scrubber shall have a minimum VOC control efficiency of 25%.

(ii) The scrubber shall not exceed 27 lbs/hr.

(c) Feed/Meal/Germ Production Operations

(1) Pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, emission units 12FAA, 12VAA, 12UAA, 12UBB, 12VCC, and 12UCC were permitted for construction, and PSD BACT requirements were established.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, pursuant to this Operation Permit, all references to these emission units in the BACT requirements for the feed/meal/germ production operations have been removed.

(2) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 21D8, 21DAA, 21DBB, 48DAA, 48FGG, 48FHH, 8V121, 8V123, 8V124, 8V63, 8V53, and 8V54 were permitted for construction and PSD BACT requirements for PM and PM_{10}, SO_2, VOC, and NO_x were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename several of these emission units and to allow construction approval for facilities 21D501, 21B501, 21G351, 21G352, and 21U314. The PSD requirements have also since been amended, pursuant to Significant Source Modification 157-30564-00003, in order to include emission units 21F304 and 21V125, which had already received construction approval and were accounted for in the previous BACT determinations but were inadvertently not included in the permit.

The following conditions are the BACT requirements for the feed/meal/germ production operations:

(A) The following emission units shall be controlled for PM, PM_{10}, SO_2, VOC, and NO_x using the BACT:

(i) RST Feed Dryer (21D301) – BACT for PM, PM_{10}, SO_2, and VOC;

(ii) Rotary Steam Tube Germ Dryer (21D401) – BACT for PM, PM_{10}, SO_2, and VOC;

(iii) Gluten Flash Dryer (48D101) – BACT for PM, PM_{10}, SO_2, VOC, and NO_x;

(iv) Fiber Flash Dryer (21D501) – BACT for PM, PM_{10}, SO_2, VOC, and NO_x;

(v) Fiber Flash Dryer Furnace (21B501) – BACT for PM, PM_{10}, VOC, and NO_x;

(vi) Feed Cooler (21D8) – BACT for PM and PM_{10};

(vii) Corn Cleanings Receiver (21F304) – BACT for PM and PM_{10};

(viii) Feed Loadout Hopper (21V125) – BACT for PM and PM_{10}; and

(ix) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT for PM, PM_{10}, VOC, and NO_x.

(B) The following combined emission limits are established as BACT for the above dryers:

For these units, the BACT for PM and PM_{10} is the use of scrubbers 21F13 and 21F311 and thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for PM and PM_{10}:

(i) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(ii) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(iii) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(iv) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(v) Exhaust opacity of the combined gas flow from the thermal oxidizers and the fiber dryer furnace shall not exceed 8%.

(C) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for SO_2 is the use of pH adjusted scrubber 21F13. The following emission limits are the BACT requirements for SO_2:

(i) When the inlet SO_2 concentration to the scrubber is more than 100 ppmvw, the scrubber shall have a minimum SO_2 control efficiency of 90%, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(ii) When the inlet SO_2 concentration to the scrubber is 100 ppmvw or less, the scrubber shall have an outlet SO_2 concentration of 10 ppmvw or less, and the scrubber outlet SO_2 emission rate shall not exceed 4.4 lbs/hr.

(D) For these units, except the Fiber Flash Dryer Furnace 21B501, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for VOC is the use of the scrubber 21F13 followed by the regenerative thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(i) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95%, and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(ii) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emissions rate shall not exceed 3.16 lbs/hr.

(E) For Fiber Flash Dryer Furnace 21B501, the BACT for VOC is good combustion practices.

(F) For these units, including the Fiber Flash Dryer Furnace 21B501 and the regenerative thermal oxidizers 48F201 and 48F202, except the RST Feed Dryer 21D301, Rotary Steam Tube Germ Dryer 21D401, Feed Cooler 21D8, Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125, the BACT for NO_x is the use of low-NO_x burners rated at 0.06 lb/MMBtu or less, and the total NO_x emissions from these burners exhausting to stack S/V 17 shall not exceed 6 lbs/hr.

(G) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(i) Feed Storage Bins 8V121, 8V123, 8V124;

(ii) Meal Storage Bin 8V63;

(iii) Germ Storage Bin 8V53; and

(iv) Germ Storage Bin 8V54.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses and shall meet the following emissions limitations:

(i) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
8V121	8F1	0.08	0.08
8V123	8F3	0.08	0.08
8V124	8F4	0.08	0.08
8V63	8F63	0.08	0.08
8V53	8F53	0.08	0.08
8V54	8F54	0.08	0.08

(ii) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iii) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iv) Opacity from the baghouses shall not exceed 3%.

(H) The following emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(i) Feed Mill 21G351,

(ii) Feed Mill 21G352, and

(iii) Feed Milling Loadout Conveyor 21U314.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of a wet scrubber, and:

(i) PM emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(ii) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(iii) PM emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(iv) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(v) Opacity from the scrubber shall not exceed 8%.

(d) Syrup Refining Operations

There are no requirements pertaining to PSD (326 IAC 2-2) for the Syrup Refining Operations.

(e) Starch Modification Operations

(1) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-29633-00003, the Permittee shall comply with the following:

(A) The amount of acid-thinned starch produced without peroxide from reactors 45V115, 45V116, and 45V222 shall be limited to fifty million (50,000,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(B) The sulfur dioxide (SO_2) emission rate from reactors 45V115, 45V116, and 45V222 shall not exceed 43 pounds SO_2 per 100,000 pounds of acid-thinned starch, combined.

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 45V115, 45V116, and 45V222.

(2) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 20VAA, 20VBB, 18AVAA, 45BVAA, 41VAA, 44V1, 44V2, 44V3, 44V4, 44V5, 44FKK, 44FLL, 44FMM, and 45VFF as well as emission units 41D12, 41D13, and 41D14 were permitted for construction, and PSD BACT requirements were established.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, all references to these emission units in the BACT requirements for the starch modification operations have been removed in this permitting action.

(3) Pursuant to PSD/SSM 157-18832-00003, 326 IAC 2-2-3, and 326 IAC 8-1-6, issued on September 13, 2005, emission units 45VAA, 45VBB, 45VCC, 45VDD, and 45VEE were permitted for construction, and PSD BACT requirements for PM, PM_{10}, and VOC were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename these emission units.

Since PSD BACT for VOC was determined for the scrubber as opposed to each individual emission unit controlled by the scrubber, then all existing emission units controlled by scrubber 45F212 are also subject to the PSD BACT requirements.

The following conditions are the BACT requirements for the starch modification operations:

The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(A) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(B) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

(f) Starch Reaction Operations

(1) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4195-00003, CP 157-6014-00003, and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed the emissions limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Feed Bin (33V1)	236 to 355	0.29	0.29
Starch Feed Bin (33V2)	237 to 355	0.29	0.29

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Low Pressure Dry Starch Reactor (33R1)	238	0.078	0.078
Catalyst Storage Bin (33V5)	239	0.034	0.034
High Pressure Dry Starch Reactor (33R2)	240	0.08	0.08
Dry Starch Product Screening Receiver (50F48), Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, 247 to 355	0.55, total	0.55, total
Dry Starch Product Screening Receiver (50F45)	262 to 355	0.07	0.07

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45.

(2) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 33VAA, 33RAA, 33VBB, 33VCC, 33VDD, and 33FEE were permitted for construction, and PSD BACT requirements were established.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, pursuant to this Operation Permit, all references to these emission units in the BACT requirements for the starch reaction operations have been removed.

(g) Starch Drying and Handling Operations

(1) In order to render the requirements of 326 IAC 2-2 not applicable to CP (79) 1599 and OP 79-10-90-0406, the PM emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM Limit (lb/hr)
Starch Flash Dryer #1 (40D1)	69	1.2
Pneumatic Product Transfer (40F7)	70	1.5
Starch Storage Bin #8 (7V8)	71	0.03
Starch Storage Bin #9 (7V9)	72	0.03

Compliance with the above limits will render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

(2) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4569-00003 and A 157-6180-00003, the Permittee shall comply with the following:

(A) PM emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

(B) PM_{10} emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

Compliance with the above limits, combined with the limited emissions from emission units 17Z03, 17F15, and 17V06 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 not applicable to emission unit 43V90.

(3) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003, the PM and PM_{10} emissions from emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92 shall not exceed the emissions limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Flash Dryer #3 (43D71)	265	7.54	7.54
Flash #3 Mill (40G88)	266	0.23	0.23
Starch Product Bins (7V34, 7V35, 7V91, 7V92)	268, 269, 345, 346	0.2 each	0.2 each

Compliance with the above limits, combined with the netting projects according to CP 157-4160-00003 and A 157-6170-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92.

(4) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003 and Significant Source Modification 157-30564-00003, the PM_{10} emissions from emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM_{10} Limit (lb/hr)
Roll Dryer 41F200 and Roll Dryer Mill 41G200	96 to 355	0.28
Product Bin #10 (41V10) and Product Bin #11 (41V11)	97 98	0.03
Roll Dryer 41F201 and Roll Dryer Mill 41G201	100 to 355	0.39
Bulk Bag Dump Station (41F13)	344	0.03
Spray Dryer (30D1)	82	4.45
Dryer Mill (30G1)	84	0.95

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41F8, 41F81, 41F82, and 41F6 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1.

(5) In order to render the requirements of 326 IAC 2-2 not applicable to Minor Source Modification 157-11907-00003 and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 50V111, 50V112, 50F106, and 41F13 shall not exceed the emissions limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	350 to 361	0.10, total	0.10, total
Bulk Bag Dump Station (41F13)	344	0.03	0.03

Compliance with the above limits, combined with the limited emissions from emission units 41D8 and 50D101, will render the requirements of 326 IAC 2-2 not applicable to emission units 50V111, 50V112, 50F106, and 50D101.

(6) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 07VAA, 07VBB, 07VCC, 07VDD, 07VEE, 44GAA, 44GBB, 51DAA, and 44DAA were permitted for construction, and PSD BACT requirements were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to allow construction approval for emission units 30GAA and 41VKK.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, all references to these emission units in the BACT requirements for the starch drying and handling operations have been removed in this permitting action.

(7) Pursuant to PSD/SSM 157-18832-00003, 326 IAC 2-2-3, and 326 IAC 8-1-6, issued on September 13, 2005, emission units 41VHH, 41G202, 41C30, 41C35, 41V14, 41V15, 41V16, 41V17, 41V18, 41VEE, 33V44, 40G20, 40G21, 7V20, 7V21, 7V22, 7V23, and 46DAA were permitted for construction, and PSD BACT requirements for VOC were established; the PSD BACT requirements for VOC for 40D20 were amended. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename several of these emission units and to allow construction approval for emission unit 41V47.

PSD BACT for NO_x was determined as the use of low-NO_x burners rated at 0.04 lb/MMBtu, and corresponding lb/hr emission rates were calculated from the units' capacities. Starch Spray Dryer #2 (46D200) was originally permitted as having a capacity of 45 MMBtu/hr with a corresponding NO_x emission limit of 1.8 lb/hr. However, Starch Spray Dryer #2 (46D200) was constructed with a capacity of 25 MMBtu/hr. Therefore, the corresponding NO_x emission limit has been revised to 1.0 lb/hr.

Since PSD BACT for VOC was determined for the scrubber as opposed to each individual emission unit controlled by the scrubber, then all existing emission units controlled by scrubber 45F212 are also subject to the PSD BACT requirements.

The following conditions are the BACT requirements for the starch drying and handling operations:

Pursuant to 326 IAC 2-2-3:

(A) The following emission units shall be controlled for PM and PM_{10} using BACT:

(i) Product Storage Bin #46 (41V46),

(ii) Roll Dryer System Mill (19G401),

(iii) Product Transfer to Bins 14 & 15 (41C30),

(iv) Product Transfer to Bins 17 & 18 (41C35),

(v) Product Bin 14 (41V14),

(vi) Product Bin 15 (41V15),

(vii) Product Bin 17 (41V17),

(viii) Product Bin 18 (41V18),

(ix) Product Storage Bin #45 (41V45),

(x) Product Storage Bin (33V44),

(xi) Starch Grinder/Mill #1 (40G20),

(xii) Starch Grinder/Mill #2 (40G21),

(xiii) Starch Product Bin #20 (7V20),

(xiv) Starch Product Bin #21 (7V21),

(xv) Starch Product Bin #22 (7V22),

(xvi) Starch Product Bin #23 (7V23), and

(xvii) Product Bin #47 (41V47).

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(i) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouses	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
41V46	41F46	0.08	0.08
19G401	19F402	0.73	0.73
41C30	41F14 & 41F15	0.08	0.08
41C35	41F20 &	0.08	0.08

Emission Unit	Baghouses	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
	41F21		
41V14	41F16	0.01	0.01
41V15	41F17	0.01	0.01
41V17	41F22	0.01	0.01
41V18	41F23	0.01	0.01
41V45	41F45	0.08	0.08
33V44	33F44	0.08	0.08
40G20	40F28	0.14	0.14
40G21	40F29	0.14	0.14
7V20	7F20	0.09	0.09
7V21	7F21	0.09	0.09
7V22	7F22	0.09	0.09
7V23	7F33	0.09	0.09
41V47	41F47	0.08	0.08

(ii) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iii) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iv) The opacity from the stack exhausts except for 40F28 and 40F29 shall not exceed 3%.

(v) The opacity from baghouses 40F28 and 40F29 shall not exceed 8%.

(B) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Spray Dryer #2 (46D200)

The BACT for PM and PM_{10} is the use of a baghouse, and:

(i) PM emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(ii) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(iii) PM emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(iv) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(v) The opacity from the baghouse exhaust shall not exceed 8%.

(C) The following emission unit shall be controlled for PM and PM_{10} using BACT:

Starch Flash Dryer #2 (40D20)

The BACT for PM and PM_{10} is the use of a scrubber, and:

(i) PM emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(ii) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(iii) PM emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(iv) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(v) The opacity from the scrubber exhaust shall not exceed 8%.

(D) For the following emission units, BACT for NO_x is the use of low-NO_x burners rated at 0.04 lb/MMBtu or less and shall not exceed the emission rates as given below:

	Lbs/hr
Starch Spray Dryer #2 (46D200)	1.0

(E) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(i) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(ii) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V200; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

(h) Starch Packaging and Loadout Operations

(1) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4160-00003 and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z01, 17U59, 17U58, 17Z14, 17F14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F78, and 20F79 shall not exceed the emissions limits listed in the table below:

Facility	**Stack**	**PM limit (lb/hr)**	**PM_{10} limit (lb/hr)**
Bag Packer #2 (17Z01)	177	0.17	N/A
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Bulk Bagger #2 (17Z14), Product Transfer for Bulk Bagger #2 (17F14)	254	0.08, total	0.08, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11	0.11
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0, total	1.0, total
Pneumatic Truck Loadout (20F78/20F79)	264 to 404	0.12	0.12

Compliance with the above limits, combined with the netting project according to CP 157-2993-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z01, 17U59, 17U58, 17Z14, 17F14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F78, and 20F79.

(2) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4569-00003 and AA 157-6180-00003, the PM emissions from 17Z03 (controlled by baghouses 17F03 and 17F04), 17F15, and 17V06 shall not exceed 2.2 pounds per hour, combined. Compliance with this limit, combined with the limited emissions from emission unit 43V90 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z03, 17F15, and 17V06.

(3) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003, A 157-6571-00003, and Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Bulk Bagger #3 (41Z6), Bag Packer #3 House Dust Collector (41F44)	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44), Product Transfer for Bulk Bagger #1 (16F25)	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8, 41F81, and 41F82)	208 to 355	0.11	0.11
J-4 Starch Rail Loadout Collector (16F100)	183 to 177	0.17	0.17
33 Bldg. Starch Bulk Truck Loadout (41F6)	189	0.04	0.04

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41G200, 41V10, 41V11, 41G201, 41F13, 30D1, and 30G1 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6.

(4) In order to render the requirements of 326 IAC 2-2 not applicable to Exemption 157-8071-00003, the PM emissions from emission units 20F1 and 20F50 are limited to 1.0 pound per hour, combined. Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable to emission units 20F1 and 20F50.

(5) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission units 51FDD, 17FBB, 17FDD, 17FCC, 17FAA, 20FAA, 20FBB, and 18FBB were permitted for construction, and PSD BACT requirements were established. The application for this Operation Permit has indicated that emission units 20FAA and 20FBB be identified as 20FCC and 20FDD, respectively.

Construction for these emission units had not commenced as of June, 2009, and Tate & Lyle Ingredients Americas LLC determined there were no plans to construct them. Tate & Lyle Ingredients Americas LLC has requested that these emission units be removed from the permit. Therefore, pursuant to this Renewal Operation Permit, all references to these emission units in the BACT requirements for the starch packaging and loadout operations have been removed.

(6) Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, emission unit 20F60 was permitted for construction, and PSD BACT requirements for PM and PM_{10} were established. The PSD requirements have since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to allow construction approval for emission units 41F7, 41F181, 41Z3, 41F18, 41Z5, 41F182, 41Z1, 41F183, 41Z2, and 41F186.

The following conditions are the BACT requirements for the starch drying and handling operations:

Pursuant to 326 IAC 2-2-3:

(A) The following emission units shall be controlled for PM and PM_{10} using BACT:

(i) Bulk Starch Rail Loadout (20F60);

(ii) Packer #3 Product Receivers and Packers (41F7, 41F181, 41Z3; 41F18, 41Z5; 41F182, 41Z1; and 41F183, and 41Z2); and

(iii) Packer #3 House Dust Collector (41F186).

(B) For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses, and:

(i) PM and PM_{10} (Filterable and Condensable) emissions from the following baghouses shall not exceed:

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
20F60	20F60	0.09	0.09
41F7	41F7	0.11	0.11
41F181	41F181		
41Z3	41F7 or 41F181		
41F18	41F18	0.11	0.11
41Z5	41F18		
41F182	41F182	0.11	0.11
41Z1	41F182		
41F183	41F183	0.11	0.11
41Z2	41F183		
41F186	41F186	0.65	0.65

(ii) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iii) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(iv) The opacity from the stack exhausts shall not exceed 3%.

(7) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z38, 17V04, 17F2, 17V05, 17F15, and 17V06 shall not exceed the emissions limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	177	1.24, total	1.24, total
Bag Packer #2 House Dust Collector (17F2), Packer #2 Reject Bag Dump (17V05)	177	1.1, total	1.07, total
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	333	2.2, total	1.07, total

Compliance with the above limits, combined with the limited PM emissions from emission units 17F2 and 17V05, shall render the requirements of 326 IAC 2-2 not applicable to emission units 17Z38, 17V04, 17F2, 17V05, 17F15, and 17V06.

(i) Boiler Support Facilities

(1) Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

(A) The PM emissions from the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 0.51 pounds per hour, combined.

(B) The PM emissions from boiler 31B1 and the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(C) The particulate matter emissions from the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall each be controlled by a baghouse providing at least 99.9% collection efficiency.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for emission units 31V1, 31F10, 31V3, 31V4, and 31V5.

(2) In SSM 157-18847-00003, issued November 19, 2004, the Permittee applied to substitute a small portion (about 6.8% by weight) of the coal combusted in the existing coal fired boiler 31B1 with the waste starch collected at this source. This alternative fuel project required a new starch feeding pipe that connected the existing GMH starch silo (identified as 09V32) to the existing coal pulverizers 31G3 and 31G4. This project was considered a change in the method of operation and a modification to the existing boiler. However, IDEM, OAQ determined that this project qualified as a Pollution Control Project as defined in 326 IAC 2-2.5. Therefore, this modification project was excluded from PSD review.

Since 326 IAC 2-2.5 has since been repealed, this modification is being reviewed for PSD applicability. At the time of this modification, PSD BACT was established for each regulated pollutant for boiler 31B1 as either a pound per

MMBtu heat input limit or a pound per hour limit, regardless of which fuel was combusted. Since the annual limited emissions for boiler 31B1 would have remained constant, there would have been no increase in PTE for boiler 31B1 due to the addition of coal and starch mixture as a supplemental fuel. Also, according to the Technical Support Document (TSD) for Significant Source Modification 157-18847-00003, the actual emissions increases were 20.2 tons per year of CO and 1.01 tons per year of VOC, with no upstream or downstream emission units affected by the modification.

This modification to an existing major stationary source would not have been major because the emissions increase was less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements did not apply.

(j) Utility Area

Pursuant to PSD (79) 1557, issued June 21, 1984, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004:

(1) The controlled particulate matter (PM) emissions from boiler 31B1 shall not exceed 0.05 pounds per MMBtu heat input.

(2) The PM emissions from boiler 31B1 and the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(3) The sulfur dioxide (SO_2) emissions from boiler 31B1 shall not exceed 1.2 pounds per MMBtu heat input and 1,215 tons per 12 month consecutive period with compliance determined at the end of each month by burning low sulfur coal.

(4) The nitrogen oxides (NO_x) emissions from boiler 31B1 shall not exceed 0.7 pounds per MMBtu and 782 tons per 12 month consecutive period with compliance determined at the end of each month by boiler feed method and combustion techniques.

(5) The carbon monoxide (CO) emissions from boiler 31B1 shall not exceed 10.2 pounds per hour and 45 tons per 12 month consecutive period with compliance determined at the end of each month.

(6) The volatile organic compounds (VOC) emissions from boiler 31B1 shall not exceed 1.1 pounds per hour and 5 tons per 12 month consecutive period with compliance determined at the end of each month.

(7) Only one of the identical gas/oil-fired boilers (11B1, 11B2, or 11B3) will be operated when the coal-fired boiler, 31B1, is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas/oil boilers. In no case will this period of time exceed eight (8) hours.

(8) Boilers 11B1, 11B2, or 11B3 will combust only natural gas when fired in conjunction with the coal-fired boiler (31B1).

(9) In order to ensure compliance with (1) through (6) above, the total amount of coal consumed by boiler 31B1 and the average coal heating value shall be determined on a monthly basis with compliance determined, per twelve consecutive month period, at the end of each month.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for Boilers 11B1, 11B2, 11B3, and 31B1.

(k) Wastewater Treatment Anaerobic Digester

Pursuant to PSD/SSM 157-18832-00003 and 326 IAC 2-2-3, issued on September 13, 2005, Tate & Lyle Ingredients Americas LLC sought to raise the overall plant limits. Thus, 326 IAC 2-2 became applicable to the existing emission units for SO_2 emissions. Since they were not to be limited and were being modified, these units were considered as proposed new construction for SO_2 and were subject to 326 IAC 2-2 for SO_2 emissions.

The following conditions are the BACT requirements for the wastewater treatment anaerobic digester:

Pursuant to 326 IAC 2-2-3, the SO_2 BACT for emission unit 34V10 shall be the use of alkaline scrubber 34V11; and

(1) The scrubber shall have a minimum H_2S control efficiency of 90%, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr of H_2S) in the scrubber outlet, when the inlet H_2S concentration to the scrubber is more than 1.1% by volume.

(2) The scrubber shall have an outlet H_2S concentration of less than 0.11% by volume, and shall not exceed 9 lbs/hr SO_2 (equivalent to 4.78 lbs/hr H_2S) in the scrubber outlet if the inlet concentration of H_2S is 1.1% by volume or less.

(3) To determine compliance with Condition D.10.1(a) and (b), the hydrogen sulfide content of the untreated biogas, the hydrogen sulfide content of the biogas treated by the biogas scrubber (34V11), the temperature of the biogas at the time of testing, and the total amount of biogas treated by the scrubber (34V11) shall be measured on a daily basis and used to calculate an average hourly sulfur dioxide emission rate and scrubber removal efficiency. If the biogas is directed to the emergency flare (34Z1), the hydrogen sulfide content of the untreated biogas, the temperature of the untreated biogas at the time of testing, and the total amount of untreated biogas burned by the emergency flare (34Z1) shall be measured on a daily basis and used to calculate a daily sulfur dioxide emission rate.

(4) The Permittee shall notify the IDEM, OAQ within two working days of any period if any H_2S is emitted directly to the atmosphere without being burned.

(l) Insignificant Activities

There are no requirements pertaining to PSD (326 IAC 2-2) for the Insignificant Activities.

326 IAC 2-6 (Emission Reporting)
This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of PM_{10} is greater than 250 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(1), annual reporting is required. An emission statement shall be submitted by July 1, 2012, and every year thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1).

326 IAC 6-4 (Fugitive Dust)
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5 because it is not located in an area listed in 326 IAC 6-5-1(a), and does not contain any facilities with the potential to emit fugitive PM greater than 25 tons per year which received a preconstruction approval after December 13, 1985. This source was issued Construction Permit No. 1557 on June 21, 1984.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
This source does not have storage tanks with capacities greater than 39,000 gallons that contain volatile organic compounds whose true vapor pressure is greater than 10.5 kilopascals (1.52 psia). Therefore, pursuant to 326 IAC 8-4-3(a), this source is not subject to the requirements of 326 IAC 8-4-3.

326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)
This source does not produce ethanol. Therefore, this source is not subject to the requirements of 326 IAC 8-5-6.

326 IAC 8-6 (Organic Solvent Emission Limitations)
326 IAC 8-1-6 (VOC BACT) applies to this source. Therefore, pursuant to 326 IAC 8-6-1(1), this source is not subject to the requirements of 326 IAC 8-6.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
326 IAC 8-17 (Industrial Solvent Cleaning Operations)
326 IAC 8-18 (SOCMI Air Oxidation, Distillation, and Reactor Processes)
326 IAC 8-19 (Control of VOC Emissions from Process Vents in Batch Operations)
326 IAC 8-20 (Industrial Wastewater)
This source is located in Tippecanoe County. Therefore, the requirements of 326 IAC 8-9, 326 IAC 8-17, 326 IAC 8-18, 326 IAC 8-19, and 326 IAC 8-20 are not applicable.

326 IAC 9 (Carbon Monoxide Emission Limits)
This source is not subject to the requirements of 326 IAC 9 because, pursuant to 326 IAC 9-1-1(a), there are no specific CO emission limitations established in 326 IAC 9-1-2 for this type of operation.

326 IAC 10 (Nitrogen Oxide Emission Limitations)
This source is not subject to the requirements of 326 IAC 10-1 (Nitrogen Oxide Emission Limitations) because the source is not located in Clark County or Floyd County.

State Rule Applicability – Corn Receiving and Handling Operations (Section D.1)

326 IAC 2-4.1 (Hazardous Air Pollutants)
All emission units listed as part of the Corn Receiving and Handling Operations are not subject to the requirements of 326 IAC 2-4.1 because these emission units do not have the potential to emit HAPs.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The particulate emission rates from emission units 12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9 shall be limited as follows:

(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(b) Best available control technology (BACT) for PM and PM_{10} (Filterable and Condensable) shall be the use of baghouse 08F300, and:

(1) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(3) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(4) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(5) The opacity from the baghouse 08F300 shall not exceed 3%.

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these emission units.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Corn Receiving and Handling Operations are not subject to the requirements of 326 IAC 7-1.1 because these emission units do not have the potential to emit SO_2.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)
All emission units listed as part of the Corn Receiving and Handling Operations are not subject to the requirements of 326 IAC 8-1-6 because these emission units do not have the potential to emit VOC.

State Rule Applicability – Wet Milling Operations (Section D.2)

326 IAC 2-4.1 (Hazardous Air Pollutants)
All emission units listed as part of the Wet Milling Operations have potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs, each. Therefore, none of the emission units listed as part of the Wet Milling Operations are subject to the requirements of 326 IAC 2-4.1.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
All emission units listed as part of the Wet Milling Operations are not subject to the requirements of 326 IAC 6-3 because these emission units do not have the potential to emit particulate matter.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Wet Milling Operations are not subject to the requirements of 326 IAC 7-1.1 because, although the emission units have potential to emit SO_2 greater than twenty-five (25) tons per year or ten (10) pounds per hour, there are no applicable SO_2 emission limits established in 326 IAC 7-1.1-2 or reporting requirements established in 326 IAC 7-2-1 for emission units that do not combust fuel.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

(a) The following emission units listed as part of the Wet Milling Operations were constructed prior to January 1, 1980:

(1) Permitted emission units: 14V3 through 14V14, 15J101, 15J200, 15J201, 14V19, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21V130, 21V59, and 21V56.

(2) Insignificant activities: 15V33.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(b) All of the following emission units listed as part of the Wet Milling Operations were constructed after January 1, 1980 and have the potential emissions of VOC less than twenty-five (25) tons per year, each:

(1) Permitted emission units: 14V15, 14V16, 14V400, 14V401, 14V402, 18F510, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 21V33, 15V27, 15V2, 21F6, 21C6, 21F100, 21F101, 21V159, 21V58, 15V210.

(2) Insignificant activities: 14V600 and 14P510.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

State Rule Applicability – Feed/Meal/Germ Production Operations (Section D.3)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) Emission units 21D501, 21B501, 48F201, 48F202, 21D301, 48D101, and 21D401 have potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs, each. Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

(b) All other emission units listed as part of the Feed/Meal/Germ Production Operations (except those identified above) are not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) because these emission units do not have the potential to emit HAPs.

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

(a) Emission units 21D501, 48F201, 48F202, 21D301, 48D101, and 21D401 are sources of direct heating. Therefore, none of these emission units are subject to the requirements of 326 IAC 6-2.

(b) Fiber Flash Dryer Furnace 21B501 was constructed in 2007. Pursuant to 326 IAC 6-2-4, the particulate emissions from this source shall not exceed emissions as determined by the following equation:

$Pt = 1.09/Q^{0.26}$

Where:
Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The total source heat input capacity for this source is 60 MMBtu/hr for the fiber flash dryer furnace 21B501 in addition to 125 MMBtu/hr for each of the previously installed boilers 11B1, 11B2, and 11B3 as well as 231 MMBtu/hr for the previously installed boiler 31B1. Therefore, Q is equal to 666 MMBtu/hr for the fiber flash dryer furnace 21B501.

$Pt = 1.09/(666)^{0.26} = 0.20$ lb/MMBtu

The AP-42 emission factor for natural gas combustion less than 100 MMBtu/hr is 1.9 lb/MMCF, which equals 0.0019 lb/MMBtu.

Therefore, the fiber flash dryer furnace 21B501 is capable of complying with this rule.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(a) Pursuant to PSD/SSM No. 157-18832-00003, PSD/SSM 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), the following particulate matter limitations have been established for Fiber Flash Dryer (21D501), RST Feed Dryer (21D301), Gluten Flash Dryer (48D101), Rotary Steam Tube Germ Dryer (21D401), which are controlled by scrubber 21F13 and thermal oxidizers 48F201 and 48F202; Corn Cleanings Receiver (21F304), Feed Cooler (21D8), and Feed Loadout Hopper (21V125), which are controlled by scrubber 21F311 and thermal oxidizers 48F201 and 48F202; and Fiber Flash Dryer Furnace (21B501):

For these units, the BACT for PM and PM_{10} is the use of scrubbers 21F13 and 21F311 and thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for PM and PM_{10}:

(1) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(3) PM emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(5) Exhaust opacity of the combined gas flow from the thermal oxidizers and the fiber dryer furnace shall not exceed 8%.

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these emission units.

(b) Pursuant to PSD/SSM No. 157-18832-00003, PSD/SSM 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), the following particulate matter limitations have been established:

Emission Unit	Control Device ID	Emission Rate (lb/hr)
8V121	8F1	0.08
8V123	8F3	0.08
8V124	8F4	0.08
8V63	8F63	0.08
8V53	8F53	0.08
8V54	8F54	0.08
21G351, 21G352, 21U314	21F312	0.204

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these emission units.

(c) The following emission units have potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 21U501, 21J47, 21U403, 21U313, 21U315, 21U201, 12U10, and 12U54.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), these emission units are exempt from the provisions of 326 IAC 6-3.

(d) The particulate emission rates from emission units AC8, 8V122, 8V62, 8U39, 8U41, AC23, AC24, and 12U11 shall be limited as follows:

(1) The particulate emission rate from baghouse 21F36 shall not exceed 0.86 lb/hr.

(2) The particulate emission rates from bin vents 8F2 and 8F62 shall not exceed 0.08 lb/hr, each.

(3) The particulate emission rate from baghouse 12F39 shall not exceed 0.21 lb/hr.

(4) The particulate emission rate from baghouse 12F40 shall not exceed 0.51 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these emission units. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

(a) Fiber Flash Dryer 21D501, RST Feed Dryer 21D301, and Gluten Meal Flash Dryer 48D101 have potential to emit SO_2 greater than twenty-five (25) tons per year or ten (10) pounds per hour, each, and are subject to the requirements of 326 IAC 7-1.1 as follows:

(1) These emission units are not subject to the requirements of 326 IAC 7-1.1-2 because there are no applicable SO_2 emission limits for emission units that combust natural gas.

(2) These emission units are subject to the reporting requirements of 326 IAC 7-2-1. However, the source shall only submit reports upon request, pursuant to 326 IAC 7-2-1(c)(3).

(b) All other emission units listed as part of the Feed/Meal/Germ Production Operations (except those identified above) are not subject to the requirements of 326 IAC 7-1.1 because each of the emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

(a) The following emission units listed as part of the Feed/Meal/Germ Production Operations were constructed prior to January 1, 1980:

(1) Permitted emission units: AC8, 8V121, 8V122, 8V123, 8V124, 8V62, 8V63, 8V53, 8V54, 8U39, 8U41, AC23, and AC24.

(2) Insignificant activities: 12U10 and 12U54.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(b) All of the following emission units listed as part of the Feed/Meal/Germ Production Operations were constructed after January 1, 1980 and have potential emissions of VOC less than twenty-five (25) tons per year, each.

(1) Permitted emission units: 21B501, 48F201, 48F202, 21F304, 21D301, 48D101, 21D401, 21D8, 21G351, 21G352, 21U314, 21V125, and 12U11.

(2) Insignificant activities: 21U501, 21J47, 21U403, 21U313, 21U315, and 21U201.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(c) Fiber Flash Dryer 21D501 was constructed after January 1, 1980 and has potential to emit VOC greater than twenty-five (25) tons per year. Therefore, 326 IAC 8-1-6 applies to this emission unit. Therefore, pursuant to PSD/SSM 157-18832-00003, PSD/SSM 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), the source shall limit the VOC emissions from 21D501 as follows:

(1) The following emission units shall be controlled for VOC using the BACT:

(A) RST Feed Dryer (21D301) – BACT only for PM, PM_{10}, SO_2, and VOC;

(B) Rotary Steam Tube Germ Dryer (21D401) – BACT only for PM, PM_{10}, SO_2, and VOC;

(C) Gluten Flash Dryer (48D101);

(D) Fiber Flash Dryer (21D501); and

(E) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT only for PM, PM_{10}, VOC, and NO_x.

(2) For these units, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(A) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95% and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(B) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emission rate shall not exceed 3.16 lbs/hr.

Compliance with these 326 IAC 2-2-3 limits shall satisfy compliance with 326 IAC 8-1-6.

State Rule Applicability – Syrup Refining Operations (Section D.4)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) HCl Storage Tank 9V101 has the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs. Therefore, this emission unit is not subject to the requirements of 326 IAC 2-4.1.

(b) All other emission units listed as part of the Syrup Refining Operations (except those identified above) are not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) because these emission units do not have the potential to emit HAPs.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(a) The following emission units have potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 18V67, 18V313, 18X32, 18V513, and 14X20.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), these emission units are exempt from the provisions of 326 IAC 6-3.

(b) The particulate emission rates from emission units 9V31, 9V30, 09C27, 18C18, and 9V144 shall be limited as follows:

(1) The particulate emission rate from bin vent 9F31 shall not exceed 0.03 lb/hr.

(2) The particulate emission rate from baghouses 09F30 and 18F118 shall not exceed 0.03 lb/hr, each.

(3) The particulate emission rate from eductor/scrubber 9E1 shall not exceed 0.27 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these emission units. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

(a) Acid Reject Flash Chamber 18V312 is not subject to the requirements of 326 IAC 7-1.1 because, although the emission unit has potential to emit SO_2 greater than twenty-five (25) tons per year or ten (10) pounds per hour, there are no applicable SO_2 emission limits established in 326 IAC 7-1.1-2 or reporting requirements established in 326 IAC 7-2-1 for emission units that do not combust fuel.

(b) All other emission units listed as part of the Syrup Refining Operations (except those identified above) are not subject to the requirements of 326 IAC 7-1.1 because each of the emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

(a) Acid Reject Flash Chamber 18V312 is not subject to the requirements of 326 IAC 8-1-6 because this emission unit has potential emissions of VOC less than twenty-five (25) tons per year.

(b) All other emission units listed as part of the Syrup Refining Operations (except those identified above) are not subject to the requirements of 326 IAC 8-1-6 because these emission units do not have potential emissions of VOC.

State Rule Applicability – Starch Modification Operations (Section D.5)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) The following emission units listed as part of the Starch Modification Operations were constructed prior to July 27, 1997:

45V115, 45V116, 45V222, 18V173, 18V178, 18V180, 18V174, 18V175, 18V179, 9V103, 45V250, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40V15, 40U23, 43V71, 43V72, 43V73, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, and 45V117 through 45V120.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

(b) All of the following emission units listed as part of the Starch Modification Operations were constructed after July 27, 1997 and have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs, each:

40F54, 40V16, 46V297, 46V201, 46V213, and 46V204.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

(c) Pursuant to CP 157-10232-00003 and 326 IAC 8-1-6, issued on October 12, 1999, VOC BACT was determined for the scrubber as opposed to each individual emission unit controlled by the scrubber. Therefore, 326 IAC 2-4.1 shall also be determined for the scrubber as opposed to each individual emission unit controlled by the scrubber, regardless of the individual emission unit's construction date.

In order to render the requirements of 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following BACT requirements, pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

(1) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(A) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(B) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per

twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance with these limits will render the requirements of 326 IAC 2-4.1 not applicable to emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(a) The following emission units have potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 43V73, 43U74, 41V103, and 19V200.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), these emission units are exempt from the provisions of 326 IAC 6-3.

(b) The particulate emission rates from facilities 45V250 and 9V103 shall be limited as follows:

(1) The particulate emission rates from bin vents 45F25 and 45F25A shall not exceed 0.13 lb/hr, combined.

(2) The particulate emission rate from bin vent 9F103 shall not exceed 0.04 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these emission units. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

(a) Starch reactors 45V115, 45V116, 45V222, 18V174, 18V175, 18V179, 18V173, 18V178, and 18V180 are not subject to the requirements of 326 IAC 7-1.1 because, although the emission units have potential to emit SO_2 greater than twenty-five (25) tons per year or ten (10) pounds per hour, there are no applicable SO_2 emission limits established in 326 IAC 7-1.1-2 or reporting requirements established in 326 IAC 7-2-1 for emission units that do not combust fuel.

(b) All other emission units listed as part of the Starch Modification Operations (except those identified above) are not subject to the requirements of 326 IAC 7-1.1 because each of the emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

(a) The following emission units listed as part of the Starch Modification Operations were constructed prior to January 1, 1980:

45V115, 45V116, and 45V222.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(b) All of the following emission units listed as part of the Starch Modification Operations were constructed after January 1, 1980 and have potential to emit VOC less than twenty-five (25) tons per year, each:

18V173, 18V178, 18V180, 18V174, 18V175, 18V179, 9V103, 45V250, 20VAA, 20VBB, 18AVAA, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43V73, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, and 45V117 through 45V120.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(c) Pursuant to CP 157-10232-00003 and 326 IAC 8-1-6, issued on October 12, 1999, emission units 15VAAA and 15VBBB were permitted for construction, and VOC BACT requirements were established for these emission units as well as the existing eleven starch reactors. The VOC BACT requirements have since been amended, pursuant to Part 70 Operating Permit T157-6009-00003, issued on June 28, 2004, in order to rename these emission units. The VOC BACT requirements have also since been amended, pursuant to PSD/SSM 157-18832-00003, issued on September 13, 2005, in order to allow construction approval for emission units 45VAA, 45VBB, 45VCC, 45VDD, and 45VEE. The VOC BACT requirements have also since been amended, pursuant to PSD/SSM 157-22808-00003, issued on December 20, 2006, in order to rename these emission units. Since VOC BACT was determined for the scrubber as opposed to each individual emission unit controlled by the scrubber, then all existing emission units controlled by the scrubber are also subject to the VOC BACT requirements.

Therefore, pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in to PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003, the following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V200; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

State Rule Applicability – Starch Reaction Operations (Section D.6)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) The following emission units listed as part of the Starch Reaction Operations were constructed prior to July 27, 1997:

33V1, 33V2, 33V5, 33R1, 33R2, 50G1, 33V42, 33V43, 33V40, 33V41, and 50G2.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

(b) All of the following emission units were constructed after July 27, 1997 and have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs, each:

50V61, 50V62, 50F45, and 50F48.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(a) The following emission unit has potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 33UAA.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), this emission unit is exempt from the provisions of 326 IAC 6-3.

(b) The particulate emission rates from emission units 33V1, 33V2, 33V5, 33R1, 33R2, 50V61, 50V62, 50F45, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, and 50G2 shall be limited as follows:

(1) The particulate emission rates from bin vents 33F1 and 33F2 shall not exceed 0.29 lb/hr, each.

(2) The particulate emission rate from bin vent 33F5 shall not exceed 0.03 lb/hr.

(3) The particulate emission rates from baghouses 33F101 and 33F102 shall not exceed 0.08 lb/hr, combined.

(4) The particulate emission rates from baghouses 33F201 and 33F202 shall not exceed 0.08 lb/hr, combined.

(5) The particulate emission rates from bin vents 50F161 and 50F162 shall not exceed 0.11 lb/hr, each.

(6) The particulate emission rates from baghouses 50F45 and 50F48 shall not exceed 0.07 lb/hr, each.

(7) The particulate emission rate from bin vents 33F42, 33F43, 33F40, and 33F41 and baghouse 50F11 shall not exceed 0.55 lb/hr, combined.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these emission units. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Starch Reaction Operations are not subject to the requirements of 326 IAC 7-1.1 because each of these emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)
All of the emission units listed in the Starch Reaction Operations have potential emissions of VOC less than twenty-five (25) tons per year, each. Therefore, none of the emission units listed in the Starch Reaction Operations are subject to the requirements of 326 IAC 8-1-6.

State Rule Applicability – Starch Drying and Handling Operations (Section D.7)

326 IAC 2-4.1 (Hazardous Air Pollutants)
(a) The following emission units listed as part of the Starch Drying and Handling Operations were constructed prior to July 27, 1997:

43V90, 40D1, 40F7, 25F1, 25G1, 7V8, 7V9, 40D20, 40F27, 40G20, 40G21, 7V20, 7V21, 7V22, 7V23, 43D71, 40G88, 7V34, 7V35, 41D1 through 41D6, 41F200, 41G200, 41F201, 41G201, 41V10, 41V11, 30D1, 41C30, 41V14, 41V15, 16D4, 16D5, 7F25, 7F26, 7V50, 7V49, 7V48, 7V47, 7V46, 30F13, 30G1, 33V44, 41C35, 41V17, and 41V18.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

(b) Each of the following emission units were constructed after July 27, 1997 and have the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs, each:

7V91, 7V92, 41D7, 41D8, 41F13, 50D101, 50V111, 50V112, 50F106, 46D200, 41V45, 41V46, 41V47, 19D301, 19D302, 19D303, 19F400, and 19G401.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
(a) Pursuant to PSD/SSM No. 157-18832-00003, PSD/SSM No. 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), particulate matter limitations have been established for the following emission units:

Emission Unit	Control Device ID	Emission Rate (lb/hr)
41V46, 30F13	41F46	0.08
19G401	19F402	0.73
41C30	41F14 & 41F15	0.08
41C35	41F20 & 41F21	0.08
41V14	41F16	0.01
41V15	41F17	0.01
41V17	41F22	0.01
41V18	41F23	0.01
41V45, 30F13	41F45	0.08
33V44, 30F13	33F44	0.08
40G20	40F28	0.14
40G21	40F29	0.14

Emission Unit	Control Device ID	Emission Rate (lb/hr)
7V20, 40F27	7F20	0.09
7V21, 40F27	7F21	0.09
7V22, 40F27	7F22	0.09
7V23, 40F27	7F33	0.09
40D20	40F20 through 40F26	7.54
46D200	46F231 & 46F232	6.61
41V47	41F47	0.08

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these emission units.

(b) Starch Roll Dryers 41D1 through 41D8 are not subject to the requirements of 326 IAC 6-3 because these emission units do not have the potential to emit particulate matter.

(c) The following emission units have potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 50U106 and 51UAA.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), these emission units are exempt from the provisions of 326 IAC 6-3.

(d) The particulate emission rates from emission units 43V90, 40D1, 40F7, 25F1, 25G1, 7V8, 7V9, 43D71, 40G88 , 7V34, 7V35, 7V91, 7V92, 41F200, 41G200, 41F201, 41G201, 41V10, 41V11, 41F13, 30D1, 16D4, 16D5, 7F25, 7F26, 7V50, 7V49, 7V48, 7V47, 7V46, 50D101, 50V111, 50V112, 50F106, and 30G1 shall be limited as follows:

(1) The particulate emission rates from bin vents 43F90, 7F8, 7F9, 41F10, 41F11, and 41F13 shall not exceed 0.03 lb/hr, each.

(2) The particulate emission rates from baghouses 7F25 and 7F26 shall not exceed 0.03 lb/hr, each.

(3) The particulate emission rate from scrubber 40F3 shall not exceed 1.20 lb/hr.

(4) The particulate emission rate from baghouse 40F7 shall not exceed 0.15 lb/hr.

(5) The particulate emission rate from baghouse 25F1 shall not exceed 0.05 lb/hr.

(6) The particulate emission rates from baghouses 25F2 and 40F88 shall not exceed 0.23 lb/hr, each.

(7) The particulate emission rate from scrubber 43F80 shall not exceed 7.54 lb/hr.

(8) The particulate emission rates from bin vents 7F34, 7F35, 7F91, and 7F92 shall not exceed 0.20 lb/hr, each.

(9) The particulate emission rates from baghouses 41F200 and 41F210 shall not exceed 0.28 lb/hr, combined.

(10) The particulate emission rates from baghouses 41F201 and 41F211 shall not exceed 0.39 lb/hr, combined.

(11) The particulate emission rates from baghouses 30F2 and 30F3 shall not exceed 4.45 lb/hr, combined.

(12) The particulate emission rates from scrubbers 16F26 and 17F78 shall not exceed 3.89 lb/hr, combined.

(13) The particulate emission rates from scrubbers 16F27 and 17F79 shall not exceed 3.89 lb/hr, combined.

(14) The particulate emission rates from bin vents 7F73, 7F72, 7F71, 7F70, and 7F69 shall not exceed 0.06 lb/hr, each.

(15) The particulate emission rate from baghouse 50F102 shall not exceed 1.10 lb/hr.

(16) The particulate emission rate from baghouse 50F106 shall not exceed 0.10 lb/hr.

(17) The particulate emission rate from baghouse 30F15 shall not exceed 0.95 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Starch Drying and Handling Operations are not subject to the requirements of 326 IAC 7-1.1 because each of these emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)
(a) Emission units 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 50D101, 46D200, 19D301, 19D302, and 19D303 are not subject to the requirements of 326 IAC 8-1-6 (VOC BACT) because each emission unit has potential emissions of VOC less than twenty-five (25) tons per year. However, since these emission units are mentioned in the BACT for the propylated starch reactors in Section D.5 for the Starch Modification Operations, they will also be mentioned in Section D.7 for clarity, as follows:

(1) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(A) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(B) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V200; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

(b) All other emission units listed as part of the Starch Drying and Handling Operations (except those identified above) are not subject to the requirements of 326 IAC 8-1-6 (VOC BACT) because these emission units do not have the potential to emit VOC.

State Rule Applicability – Starch Packaging and Loadout Operations (Section D.8)

326 IAC 2-4.1 (Hazardous Air Pollutants)
All emission units listed as part of the Starch Packaging and Loadout Operations are not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) because these emission units do not have the potential to emit HAPs.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(a) Pursuant to PSD/SSM No. 157-18832-00003, PSD/SSM No. 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), particulate matter limitations have been established for the following emission units:

Emission Unit	Control Device ID	Emission Rate (lb/hr)
20F60	20F60	0.09
41F7	41F7	0.11
41F181	41F181	
41Z3	41F7, 41F181	
41F18	41F18	0.11
41Z5	41F18	
41F182	41F182	0.11
41Z1	41F182	
41F183	41F183	0.11
41Z2	41F183	
41F186	41F186	0.65

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these emission units.

(b) The particulate emission rates from emission units 17V6, 17U58, 17U59, 16F5, 17F27, 17Z38, 17V04, 17Z01, 17F2, 17V05, 41F44, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 41Z6, 20F1, 20F50, 20F61, 20F78, 20F79, 16F100, and 41F6 shall be limited as follows:

(1) The particulate emission rate from baghouse 17F6 shall not exceed 0.12 lb/hr.

(2) The particulate emission rate from baghouse 17F58 shall not exceed 0.03 lb/hr.

(3) The particulate emission rates from baghouses 16F5 and 17F27 shall not exceed 0.13 lb/hr, combined.

(4) The particulate emission rate from baghouse 17F10 shall not exceed 1.59 lb/hr.

(5) The particulate emission rates from baghouses 17F01, 20F61, and 16F100 shall not exceed 0.17 lb/hr, each.

(6) The particulate emission rate from baghouse 17F2 shall not exceed 1.10 lb/hr.

(7) The particulate emission rate from baghouse 41F44 shall not exceed 0.69 lb/hr.

(8) The particulate emission rates from baghouses 17F03 and 17F04 shall not exceed 0.20 lb/hr, combined.

(9) The particulate emission rate from baghouse 17F15 shall not exceed 1.07 lb/hr.

(10) The particulate emission rate from baghouse 16F25 shall not exceed 0.13 lb/hr.

(11) The particulate emission rate from baghouse 17F14 shall not exceed 0.08 lb/hr.

(12) The particulate emission rates from baghouses 41F8, 41F81, and 41F82 shall not exceed 0.11 lb/hr, combined.

(13) The particulate emission rates from baghouses 20F1 and 20F50 shall not exceed 0.15 lb/hr, each.

(14) The particulate emission rates from baghouses 20F78 and 20F79 shall not exceed 0.12 lb/hr, combined.

(15) The particulate emission rate from baghouse 41F6 shall not exceed 0.04 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Starch Packaging and Loadout Operations are not subject to the requirements of 326 IAC 7-1.1 because each of these emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds Limitations - BACT)
(a) The following emission units listed as part of the Starch Packaging and Loadout Operations were constructed prior to January 1, 1980:

16F5, 17F27, 17Z38, and 20F61.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(b) All of the following emission units listed as part of the Starch Packaging and Loadout Operations were constructed after January 1, 1980 and have potential emissions of VOC less than twenty-five (25) tons per year, each:

17V6, 17U58, 17U59, 17V04, 17Z01, 17F2, 17V05, 41F18, 41Z5, 41F7, 41F181, 41Z3, 41F182, 41Z1, 41F183, 41Z2, 41F186, 41F44, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 41Z6, 20F1, 20F50, 20F60, 20F78, 20F79, 16F100, and 41F6.

Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

State Rule Applicability – Boiler Support Facilities (Section D.9)

326 IAC 2-4.1 (Hazardous Air Pollutants)
All emission units listed as part of the Boiler Support Facilities are not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) because these emission units were constructed prior to July 7, 1997.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The particulate emission rates from emission units 31V3, 31V4, 31V5, 9V32, 31F10, 31V1, and 31V10 shall be limited as follows:

(1) The particulate emission rate from bin vent 31F21 shall not exceed 0.10 lb/hr.

(2) The particulate emission rates from bin vents 31F19 and 31F20 shall not exceed 0.07 lb/hr, each.

(3) The particulate emission rate from bin vent 9F32 shall not exceed 0.03 lb/hr.

(4) The particulate emission rate from baghouse 31F10 shall not exceed 0.18 lb/hr.

(5) The particulate emission rate from bin vent 31F1 shall not exceed 0.09 lb/hr.

(6) The particulate emission rate from bin vent 31F18 shall not exceed 0.06 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
All emission units listed as part of the Boiler Support Facilities are not subject to the requirements of 326 IAC 7-1.1 because each of these emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds Limitations - BACT)
All emission units listed as part of the Boiler Support Facilities are not subject to the requirements of 326 IAC 8-1-6 (BACT) because each of these emission units has potential emissions of VOC less than twenty-five (25) tons per year.

State Rule Applicability – Utility Area (Section D.10)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) Boilers 11B1, 11B2, and 11B3 were constructed prior to July 27, 1997.

(b) The construction for Boiler 31B1 commenced prior to April 12, 1984, as documented in the Agreed Order for A-2439, A-3122, A-3147, and A-3186, approved by IDEM on March 6, 1997.

Therefore, none of these emission units are subject to the requirements of 326 IAC 2-4.1.

326 IAC 3-5 (Continuous Monitoring)

(a) Pursuant to Agreed Order A-2439, A-3122, A-3147, and A-3186, and A 157-8577-00003, issued December 3, 1997, the Permittee shall install, maintain, calibrate and operate a continuous emission monitoring system (CEMS) for sulfur dioxide from boiler 31B1. The continuous emission monitoring data shall be used to determine compliance with 326 IAC 7-1.1 and 326 IAC 2-2. This system shall be certified in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. A standard operating procedure detailing quality assurance/quality control activities shall be submitted to the department for approval in accordance with 326 IAC 3-5-4. Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5. The continuous emission monitor (CEM) results shall be used to determine compliance with the sulfur dioxide emissions limit on the basis of three-hour block periods.

(b) The Permittee shall maintain, calibrate, and operate a continuous emission monitoring system (CEMS) for nitrogen oxides from boiler 31B1. This system shall be certified in accordance with 326 IAC 3-5-2 and 326 IAC 3-5-3. A standard operating procedure detailing quality assurance/quality control activities shall be submitted to the department for approval in accordance with 326 IAC 3-5-4. Relative accuracy tests and routine quarterly audits shall be performed in accordance with the contents of the standard operating procedures (SOP) pursuant to 326 IAC 3-5-5. The continuous emission monitor (CEM) results shall be used to determine compliance with the nitrogen oxides emissions limit on the basis of a 30-day rolling average emission rate calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding thirty (30) steam generating unit operating days.

(c) Pursuant to 326 IAC 3-5 (Continuous Monitoring of Emissions), and 326 IAC 2, a continuous monitoring system shall be installed, calibrated, maintained, and operated to measure the opacity of the exhaust from boiler 31B1. The continuous opacity monitoring system shall meet the performance specifications of 326 IAC 3-5-2.

326 IAC 6-2-3 (Particulate Matter- Sources of Indirect Heating)
Boilers 11B1, 11B2, and 11B3 were constructed in 1966 at a source located in Tippecanoe County. Pursuant to 326 IAC 6-2-3, the particulate emissions from these boilers shall not exceed emissions as determined by the following equation:

$Pt = (C * a * h) / (76.5 * Q^{0.75} * N^{0.25})$

Where:
Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu)
C = 50 u/m^3
a = Plume rise factor
h = Stack height (ft)
Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.
N = Number of stacks in fuel burning operation

The total source heat input capacity is 375 MMBtu/hr, 125 MMBtu/hr for each boiler. There were no other sources of indirect heating in operation when these boilers were constructed. Therefore, Q is equal to 375 MMBtu/hr for each of these boilers.

$Pt = (50 * 0.67 * 165) / (76.5 * (375)^{0.75} * (1)^{0.25}) = 0.85$ lb/MMBtu

However, pursuant to 326 IAC 6-2-3(d), any facility subject to the requirements of this rule shall emit less than 0.8 lb/MMBtu.

The PM AP-42 emission factor for natural gas combustion less than 100 MMBtu/hr is 1.9 lb/MMCF, which equals 0.0019 lb/MMBtu assuming 1 MMCF of natural gas is equal to 1,000 MMBtu/hr.

Therefore, Boilers 11B1, 11B2, and 11B3 are capable of complying with this rule without the benefit of additional controls.

326 IAC 6-2-4 (Sources of Indirect Heating)
Boiler 31B1 was constructed in 1984. Pursuant to 326 IAC 6-2-4, the particulate emissions from this boiler shall not exceed emissions as determined by the following equation:

$Pt = 1.09/Q^{0.26}$

Where:
Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input.
Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The total source heat input capacity is 231 MMBtu/hr for Boiler 31B1 in addition to 375 MMBtu/hr for the previously installed boilers (11B1, 11B2, and 11B3). Therefore, Q is equal to 606 MMBtu/hr for Boiler 31B1.

$Pt = 1.09/(606)^{0.26} = 0.21$ lb/MMBtu

The AP-42 emission factor for natural gas combustion less than 100 MMBtu/hr is 1.9 lb/MMCF, which equals 0.0019 lb/MMBtu assuming 1 MMCF of natural gas is equal to 1,000 MMBtu/hr.

Therefore, Boiler 31B1 is capable of complying with this rule without the benefit of additional controls.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to PSD/SSM No. 157-18832-00003, PSD/SSM No. 157-22808-00003, and 326 IAC 2-2-3 (PSD BACT), particulate matter limitations have been established for the following emission units:

(a) The controlled particulate matter (PM) emissions from boiler 31B1 shall not exceed 0.05 pounds per MMBtu heat input. Compliance with this limit, in conjunction with the limited PM emissions from the coal/ash handling system (31V1, 31F10, 31V3, 31V4, and 31V5) (Condition D.8.1), is equivalent to total PM emissions of less than 56 tons per year;

(b) Only one of the identical gas/oil-fired boilers (11B1, 11B2, or 11B3) will be operated when the coal-fired boiler, 31B1, is operating. The only exception is the period of time required to replace the operation of boiler 31B1 with the operation of the two remaining standby gas/oil boilers. In no case will this period of time exceed eight (8) hours;

(c) Boilers 11B1, 11B2, or 11B3 will combust only natural gas when fired in conjunction with the coal-fired boiler (31B1); and

(d) In order to ensure compliance with (1) above, the total amount of coal consumed by boiler 31B1 and the average coal heating value shall be determined on a monthly basis with compliance determined, per twelve consecutive month period, at the end of each month.

These PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. Therefore, pursuant to 326 IAC 6-3-1(c)(1), the provisions of 326 IAC 6-3 are not applicable to these facilities.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
(a) Boiler 31B1 has the capacity to burn coal, and it has potential to emit SO_2 greater than 25 tons per year. Therefore, pursuant to 326 IAC 7-1.1-2(a)(1), the sulfur dioxide emissions from this boiler shall not exceed 6.0 pounds per MMBtu heat input when combusting coal.

(b) Boilers 11B1, 11B2, and 11B3 have the capacity to burn #2 fuel oil, and each boiler has potential to emit SO_2 greater than 25 tons per year. Therefore, pursuant to 326 IAC 7-1.1-2(a)(3), the sulfur dioxide emissions from boilers 11B1, 11B2, and 11B3 shall not exceed 0.5 pounds per MMBtu heat input, each, when combusting #2 fuel oil.

Compliance with 326 IAC 7-1.1 shall be demonstrated with a SO_2 CEMS pursuant to 326 IAC 7-2-1(g) and 326 IAC 3-5.

326 IAC 8-1-6 (Volatile Organic Compounds Limitations - BACT)

(a) Boilers 11B1, 11B2, and 11B3 were constructed prior to January 1, 1980. Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

(b) Boiler 31B1 has potential emissions of VOC less than twenty-five (25) tons per year. Therefore, this facility is not subject to the requirements of 326 IAC 8-1-6.

326 IAC 10-4 (NO_x Budget Trading Program)

Boilers 11B1, 11B2, 11B3, and 31B1 are not subject to 326 IAC 10-4-1 because each boiler is not a "large affected unit" as defined in 326 IAC 10-4-2(27). Each is not a "large affected unit" because each does not have a maximum design heat input greater than two hundred fifty million (250,000,000) Btu per hour.

State Rule Applicability – Anaerobic Waste Treatment System (Section D.11)

326 IAC 2-4.1 (Hazardous Air Pollutants)

The Wastewater Treatment Anaerobic Digester, identified as 34V10, is not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) because it was constructed prior to July 7, 1997.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

The anaerobic waste treatment system is not part of a manufacturing process as defined by 326 IAC 6-3-1.5(2). Therefore, it is not subject to the requirements of 326 IAC 6-3-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

Main flare 21Z1 and emergency flare 34Z1 have potential to emit SO_2 greater than twenty-five (25) tons per year or ten (10) pounds per hour, each, and are subject to the requirements of 326 IAC 7-1.1 as follows:

(a) These emission units are not subject to the requirements of 326 IAC 7-1.1-2 because there are no applicable SO_2 emission limits for emission units that combust biogas.

(b) These emission units are subject to the reporting requirements of 326 IAC 7-2-1. However, the source shall only submit reports upon request, pursuant to 326 IAC 7-2-1(c)(3).

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

Wastewater Treatment Anaerobic Digester 34V10 has potential to emit VOC less than twenty-five (25) tons per year. Therefore, this unit is not subject to the requirements of 326 IAC 8-1-6.

State Rule Applicability –Insignificant Activities (Section D.12)

326 IAC 2-4.1 (Hazardous Air Pollutants)

(a) The emergency diesel generator, identified as Wastewater Treatment, has the potential to emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs. Therefore, this emission unit is not subject to the requirements of 326 IAC 2-4.1.

(b) The operation of the propylene oxide storage tank and associated distribution system will emit greater than ten (10) tons per year for a single HAP. Therefore, 326 IAC 2-4.1 would have applied to the storage system. However, pursuant to 326 IAC 2-4.1-1(b)(2), because this storage system is specifically regulated by NESHAP 40 CFR 63, Subpart EEEE, which was issued pursuant to Section 112(d) of the CAA, this storage system is exempt from the requirements of 326 2-4.1.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

(a) The following emission units have potential particulate emissions less 0.551 pounds per hour, each:

Insignificant activities: 31V2, 31U3, 31U4, 31U5, 31G3, and 31G4.

Therefore, pursuant to 326 IAC 6-3-1(b)(14), these emission units are exempt from the provisions of 326 IAC 6-3.

(b) Pursuant to 326 IAC 6-3-2, the particulate emissions from the brazing equipment, cutting torches, soldering equipment, welding equipment, structural steel and bridge fabrication activities, coal bunker and coal scale exhausts and associated dust collector vents, and vents from ash transport systems not operated at positive pressure shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission is pounds per hour and
P = process weight rate in tons per hour

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

All emission units listed as part of the Insignificant Activities (listed in Section D.12) are not subject to the requirements of 326 IAC 7-1.1 because each of these emission units has potential to emit SO_2 less than twenty-five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6 (Volatile Organic Compounds - BACT)

All of the emission units listed as part of the Insignificant Activities have the potential to emit VOC less than twenty-five (25) tons per year, each. Therefore, none of these emission units are subject to the requirements of 326 IAC 8-1-6.

326 IAC 8-3-2 (Cold Cleaner Operations)

This source has cold cleaner degreasing operations that were constructed after January 1, 1980. Therefore, the requirements of 326 IAC 8-3-2 are applicable. The following requirements shall apply to each degreaser:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operating requirements; and

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)
This source has cold cleaner degreaser operations that were constructed after July 1, 1990. Therefore, the requirements of 326 IAC 8-3-5 are applicable. The following requirements shall apply to each degreaser:

(a) The Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) The Permittee of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 8-3-8 (Material Requirements for Cold Cleaning Degreasers)
This source is located in Tippecanoe County. Therefore, this source is not subject to the requirements of 326 IAC 8-3-8.

326 IAC 8-4-6 (Gasoline Dispensing Facilities)
(a) Pursuant to 326 IAC 8-4-6(a)(8), diesel fuel and kerosene are not to be considered motor vehicle fuels. Therefore, the petroleum fuel dispensing facilities are not gasoline dispensing facilities, and the requirements of 326 IAC 8-4-6 are not applicable to them.

(b) The storage tank identified as Tank #3 meets the definition of a gasoline dispensing facility, pursuant to 326 IAC 8-4-6(a)(8), because it has a capacity of greater than 250 gallons. However, pursuant to 326 IAC 8-4-1(d), 326 IAC 8-4-6(a) and (b) apply to any gasoline storage tank at a gasoline dispensing facility with a monthly gasoline throughput of 10,000 gallons per month or greater. The source has elected to comply with the following limit in order for the requirements of 326 IAC 8-4-6(a) and (b) to not be applicable to them:

(1) The monthly gasoline throughput from the storage tank identified as Tank #3 shall not exceed 10,000 gallons per month.

Therefore, the requirements of 326 IAC 8-4-6(a) and (b) are not included in the permit.

(c) This source is located in Tippecanoe County. Therefore, pursuant to 326 IAC 8-4-1(e), this source is not subject to the requirements of 326 IAC 8-4-6(c).

326 IAC 8-4-9 (Leaks from Vapor Collection Systems)
Since the source has elected to limit the monthly gasoline throughput from the gasoline storage tank, identified as Tank #3, in order for the requirements of 326 IAC 8-4-6(a) and (b) to not be applicable to them, the tank does not require a vapor collection system. Therefore, the requirements of 326 IAC 8-4-9 are not included in the permit.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet

Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination requirements applicable to this source are as follows:

(a) The Corn Receiving and Handling Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation
Baghouse 08F300 for particulate control shall be in operation and control emissions from all emission units exhausting to it at all times when an emission unit that it controls is in operation.

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the particulate emission limitations in Condition D.1.1 for baghouse 08F300 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(b) The Wet Milling Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation
Scrubber 15F401 for SO_2 and VOC control shall be in operation and control SO_2 and VOC emissions from all emission units exhausting to it at all times when an emission unit that it controls is in operation.

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the SO_2 and VOC emission limitations in Conditions D.2.1(b) and D.2.1(c)(2) for scrubber 15F401 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(c) The Feed/Meal/Germ Production Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) Scrubber 21F13 and thermal oxidizers 48F201and 48F202 for particulate, VOC, and SO_2 control shall be in operation and control emissions from emission units 21D501, 21D301, 48D101, and 21D401 at all times when the material feed system to any emission unit that it controls is in operation.

(B) Scrubber 21F311 for particulate control shall be in operation and control emissions from emission units 21F304, 21D8, and 21V125 and exhaust as combustion air into the furnace of Gluten Flash Dryer 48D101 and/or the Fiber Flash Dryer Furnace 21B501 and/or Thermal Oxidation Units 48F201 and 48F202 at all times when the material feed system to any emission unit that it controls is in operation.

(C) Scrubber 21F312 for particulate control shall be in operation and control emissions from emission units 21G351, 21G352, and 21U314 at all times when any emission unit that it controls is in operation.

(D) The following baghouses for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Baghouse/s	Emission Unit/s
21F36	AC8
12F39	AC23, AC24
12F40	12U11

(E) The following bin vents for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Bin Vent/s	Emission Unit/s
8F1	8V121
8F2	8V122
8F3	8V123
8F4	8V124
8F62	8V62, 8U39, 8U41
8F63	8V63
8F53	8V53
8F54	8V54

(2) Testing Requirements

(A) Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the PM, PM_{10}, opacity, VOC, and SO_2 emission limitations in Conditions D.3.1(b), D.3.1(c), and D.3.1(d) for scrubbers 21F13 and 21F311 and thermal oxidizers 48F201 and 48F202 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(B) Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the NO_x emission limitations in Condition D.3.1(f) for the burners exhausting to stack S/V 17 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(d) The Syrup Refining Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) Eductor/scrubber 9E1 for particulate control shall be in operation and control emissions from emission unit 9V144 at all times when emission unit 9V144 is in operation.

(B) Bin vent 9F31 for particulate control shall be in operation and control emissions from emission unit 9V31 at all times when emission unit 9V31 is in operation.

(C) Baghouse 18F118 for particulate control shall be in operation and control emissions from emission unit 09C27 at all times when any emission unit that it controls is in operation.

(D) Baghouse 09F30 for particulate control shall be in operation and control emissions from emission unit 9V30 at all times when emission unit 9V30 is in operation.

(e) The Starch Modification Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) Scrubber 45F212 for VOC and HAP control shall be in operation and control emissions from emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296 at all times any of those emission units are in operation.

(B) The following bin vents for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Bin Vent/s	**Emission Unit/s**
9F103	9V103
45F25, 45F25A	45V250

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the VOC emission limitations in Conditions D.5.1(b) and D.5.5(a) for scrubber 45F212 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(f) The Starch Reaction Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) The following baghouses for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Baghouse/s	**Emission Unit/s**
33F101, 33F102	33R1
33F201, 33F202	33R2
50F45	50F45
50F48	50F48, 50G1
50F11	50G2

(B) The following bin vents for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Bin Vent/s	Emission Unit/s
33F1	33V1
33F2	33V2
33F5	33V5
50F161	50V61
50F162	50V62
33F42	33V42
33F43	33V43
33F40	33V40
33F41	33V41

(g) The Starch Drying and Handling Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) The following scrubbers for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Scrubber/s	Emission Unit/s
40F3	40D1
40F26	40D20
43F80	43D71
16F26, 17F78	16D4
16F27, 17F79	16D5

(B) The following baghouses for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Baghouse/s	Emission Unit/s
40F7	40F7
25F1	25F1
25F2	25G1
40F28	40G20
40F29	40G21
40F88	40G88
41F200	41F200
41F210	41G200
41F201	41F201
41F211	41G201
30F2, 30F3	30D1
41F14, 41F15	41C30
7F25	7F25
7F26	7F26
50F102	50D101
50F106	50V111, 50V112, 50F106
46F231, 46F232	46D200

Baghouse/s	Emission Unit/s
30F15	30G1
19F400	19F400
19F402	19G401
41F20, 41F21	41C35

(C) The following bin vents for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Bin Vent/s	Emission Unit/s
43F90	43V90
7F8	7V8
7F9	7V9
7F20	7V20, 40F27
7F21	7V21, 40F27
7F22	7V22, 40F27
7F23	7V23, 40F27
7F34	7V34
7F35	7V35
7F91	7V91
7F92	7V92
41F10	41V10
41F11	41V11
41F13	41F13
41F16	41V14
41F17	41V15
7F73	7V50
7F72	7V49
7F71	7V48
7F70	7V47
7F69	7V46
41F45	41V45, 30F13
41F46	41V46, 30F13
41F47	41V47, 30F13
33F44	33V44, 30F13
41F22	41V17
41F23	41V18

(2) Testing Requirements

(A) Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the PM and PM_{10} emission limitations in Condition D.7.1(a) for emission unit 19G401 and one of the emission units 40G20 and 40G21 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(B) Not later than 180 days after the issuance of this permit, T157-27029-00003, compliance with the PM and PM_{10} emission limitations in Condition D.7.1(b) for emission unit 46D200 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(C) Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the PM and PM_{10} emission limitations in Condition D.7.1(c) for emission unit 40D20 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(D) Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the VOC emission in Conditions D.7.1(e) and D.7.4(a) limitations for scrubber 45F212 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(h) The Starch Packaging and Loadout Operations have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) The following baghouses for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Baghouse/s	**Emission Unit/s**
17F6	17V6
17F58	17U58, 17U59
16F5	16F5
17F27	17F27
17F10	17Z38, 17V04
17F01	17Z01
17F2	17F2, 17V05
41F18	41F18, 41Z5
41F7	41F7, 41Z3
41F181	41F181, 41Z3
41F182	41F182, 41Z1
41F183	41F183, 41Z2
41F186	41F186
41F44	41F44, 41Z6
17F03, 17F04	17Z03
17F15	17F15, 17V06
16F25	16F25, 16J44
17F14	17F14, 17Z14
41F8, 41F81, 41F82	41F8, 41F81, 41F82
20F1	20F1
20F50	20F50
20F61	20F61
20F60	20F60
20F78, 20F79	20F78, 20F79
16F100	16F100
41F6	41F6

(B) Pursuant to CP 157-5294-00003, issued September 5, 1996, A 157-6571-00003, issued October 3, 1996, and in order to comply with Condition D.7.1, the particulate emissions from emission units 41F8, 41F81, 41F82, and 41F6 shall be considered in compliance that only one

of the tote packer product receivers (41F8, 41F81, and 41F82) shall be operated at any one time.

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the PM and PM_{10} emission limitations in Condition D.8.1(b) for emission unit 41F186 shall be determined by a performance stack test. Testing shall be repeated every five (5) years. PM_{10} is filterable and condensable PM.

(i) The Boiler Support Facilities have applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) Baghouse 31F22 for particulate control shall be in operation and control emissions from emission unit 31F10 at all times the emission unit is in operation.

(B) The following bin vents for particulate control shall be in operation and control emissions from the corresponding emission units at all times when any emission unit that it controls is in operation:

Bin Vent/s	Emission Unit/s
31F21	31V3
31F19	31V4
31F20	31V5
9F32	9V32
31F1	31V1
31F18	31V10

(2) Testing Requirements
Not later than 180 days of the issuance of Operating Permit Renewal No. T157-27029-00003, compliance with the opacity emission limitations in Condition D.9.3 for the coal processing plant shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(j) The Utility Area has applicable compliance determination conditions as specified below:

(1) Emission Controls Operation
Baghouse 31F2 for particulate control shall be in operation and control emissions from emission unit 31B1 at all times when emission unit 31B1 is in operation.

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the PM emission limitation in Conditions D.10.1(a) and D.10.1(b) for boiler 31B1 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

(3) Sulfur Content
Compliance with Condition D.10.7 shall be determined utilizing one of the following options:

(A) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions from boilers 11B1, 11B2, and 11B3 do not

exceed five-tenths (0.5) pound per million Btu heat input when combusting fuel oil #2 by:

(i) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;

(ii) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(a) Oil samples may be collected from the fuel tank used in conjunction with the boilers immediately after the fuel tank is filled and before any oil is combusted; and

(b) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(B) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the boiler using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

(3) Continuous Emissions Monitoring

(A) In order to determine compliance with Conditions D.10.1 and D.10.4, the Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment for measuring SO_2 and NO_x emissions from boiler 31B1 in accordance with applicable federal regulations and 326 IAC 3-5.

(B) The CEMS shall be operated at all times, except during CEMS malfunctions, reasonable periods of necessary CEMS calibration, or CEMS maintenance activities. CEMS calibration and maintenance activities shall be properly documented and shall be conducted pursuant to the standard operating procedures under 326 IAC 3-5-4(a).

(C) The Permittee shall keep records in accordance with 326 IAC 3-5-6(b) that includes the following:

(i) All documentation relating to:

(a) Design, installation, and testing of all elements of the monitoring system, and

(b) Required corrective action or compliance plan activities.

(ii) All maintenance logs, calibration checks, and other required quality assurance activities,

(iii) All records of corrective and preventive action,

(iv) A log of plant operations, including the following:

(a) Date of facility downtime,

(b) Time of commencement and completion of each downtime, and

(c) Reason for each downtime.

(D) In accordance with 326 IAC 3-5-7(5), the Permittee shall submit reports of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately. The reports shall include the following:

(i) Date of downtime,

(ii) Time of commencement,

(iii) Duration of each downtime,

(iv) Reasons for each downtime, and

(v) Nature of system repairs and adjustments.

(E) Except where permit conditions streamline similar applicable requirements pursuant to 326 IAC 2-7-24, nothing in this permit shall excuse the Permittee from complying with 326 IAC 3-5.

(4) Continuous Opacity Monitoring

(A) In order to determine compliance with Condition D.10.5, the Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment for measuring opacity from boiler 31B1. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

(B) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(C) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(D) Whenever a COMS is malfunctioning or will be down for maintenance, or repairs for a period of twenty-four (24) hours or more, a backup COMS is not online within twenty-four (24) hours of shutdown of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(i) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(ii) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(iii) Method 9 readings may be discontinued once a COMS is online.

(iv) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(E) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5.

(k) The Waste Water Anaerobic Digester has applicable compliance determination conditions as specified below:

(1) Emission Controls Operation

(A) Scrubber 34V11 for SO_2 control shall be in operation and control emissions from emission unit 34V10 at all times when emission unit 34V10 is producing biogas and the biogas is used as fuel in fiber flash dryer furnace 21B501 and gluten flash dryer 48D101.

(B) Main flare 21Z1 for H_2S control shall be in operation and control emissions from scrubber 34V11 at all times when biogas is routed to scrubber 34V11.

(C) Emergency flare 34Z1 for H_2S control shall be in operation and combust the biogas at all times when biogas is vented to it, and:

(i) The amount of biogas produced by emission unit 34V10 exceeds the capacities of fiber flash dryer furnace 21B501, gluten flash dryer 48D101, and main flare 21Z1, or

(ii) Inspection or maintenance of scrubber 34V11 or blowers occurs that requires biogas from emission unit 34V10 be isolated to allow that maintenance to be performed safely.

(2) Testing Requirements
Not later than five (5) years from the date of the most recent valid compliance demonstration, compliance with the H_2S emission limitations in Condition D.11.1 for emission unit 34V11 shall be determined by a performance stack test. Testing shall be repeated every five (5) years.

These requirements are required to ensure compliance with 326 IAC 2-2-3 (BACT), 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), and 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations).

The compliance monitoring requirements applicable to these emission units are as follows:

(a) The Corn Receiving and Handling Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations
Pursuant to 40 CFR 64 (CAM), the Permittee shall perform daily visible emission notations of the stack 433 exhaust.

(2) Baghouse Parametric Monitoring
Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across the baghouse 08F300 at least once per day when an emission unit that is being aspirated to the baghouse is in operation.

(3) Broken or Failed Bag Detection
The Permittee shall maintain baghouse 08F300 and replace broken or failed bags as needed.

(b) The Wet Milling Operations have applicable compliance monitoring conditions as specified below:

(1) Scrubber Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall monitor the scrubber recirculation rate from scrubber 15F401 at least one per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(B) Pursuant to 40 CFR 64 (CAM), within ninety (90) days from the issuance date of Significant Permit Modification 157-30882-00003, the Permittee shall monitor the scrubber make-up water flow continuously when any of the emission units being aspirated to scrubber 15F401 are in operation.

(C) The Permittee shall monitor the pH of the scrubbing liquor from scrubber 15F401 at least once per day when any of the emission units being aspirated to scrubber 15F401 are in operation.

(2) Scrubber Failure Detection
The Permittee shall maintain scrubber 15F401 and shall repair or replace broken components as needed.

(c) The Feed/Meal/Germ Production Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall perform daily visible emission notations of the stack 17 exhaust.

(B) The Permittee shall perform daily visible emission notations of the stacks' 3, 110, 111, 112, 113, 114, 115, 116, 117, 125, 145, 444, and 446 exhausts.

(2) Scrubber Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pH and recirculation rate across scrubber 21F13 at least once per day when emission units 21D501, 21D301, 48D101, and 21D401 are in operation.

(B) The Permittee shall record the recirculation rate across scrubber 21F311 at least once per day when emission units 21F304, 21D8, and 21V125 are in operation.

(C) The Permittee shall record the recirculation rate across scrubber 21F312 at least once per day when emission units 21G351, 21G352, and 21U314 are in operation.

(3) Scrubber Failure Detection
The Permittee shall maintain scrubbers 21F13, 21F311, and 21F312 and shall repair or replace broken components as needed.

(4) Thermal Oxidizer Temperature

(A) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizers for measuring operating temperature. The output of this system shall be recorded as 3-hour average.

(B) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Condition D.3.1(d).

(C) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the compliant stack test.

(5) Broken or Failed Bag Detection
The Permittee shall maintain baghouses 12F40, 12F39, and 21F36 and bin vents 8F1, 8F2, 8F3, 8F4, 8F62, 8F63, 8F53, and 8F54. The Permittee shall replace broken or failed bags as needed.

(d) The Syrup Refining Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations
The Permittee shall perform daily visible emission notations of the stacks' 123, 124, 129, and 149 exhausts.

(2) Scrubber Parametric Monitoring
The Permittee shall perform visible observations of the recirculation rate across eductor/scrubber 9E1 each time when soda ash is being transferred to the soda ash storage silo, 9C40.

(3) Scrubber Failure Detection
The Permittee shall maintain eductor/scrubber 9E1 and shall repair or replace broken components as needed.

(4) Broken or Failed Bag Detection
The Permittee shall maintain baghouses 09F30 and 18F118 and bin vent 9F31 and replace broken or failed bags as needed.

(e) The Starch Modification Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations
The Permittee shall perform daily visible emission notations of the stacks' 64, 68, 369, 370, and 371 exhausts.

(2) Scrubber Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pH and pressure drop across scrubber 45F212 at least once per day when an emission unit that is being aspirated to the scrubber is in operation.

(B) Pursuant to 40 CFR 64 (CAM), a continuous monitoring system shall be installed and operated at all times when scrubber 45F212 is in operation.

The monitoring system shall continuously measure and record the scrubber's recirculation rate for scrubber 45F212.

(3) Scrubber Failure Detection
The Permittee shall maintain scrubber 45F212 and shall repair or replace broken components as needed.

(4) Broken or Failed Bag Detection
The Permittee shall maintain bin vents 45F25, 45F25A, and 9F103 and replace broken or failed bags as needed.

(f) The Starch Reaction Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations
The Permittee shall perform daily visible emission notations of the stacks' 238, 239, 240, 355, 361, 373, and 374 exhausts.

(2) Broken or Failed Bag Detection
The Permittee shall maintain baghouses 33F101, 33F102, 33F201, 33F202, 50F48, 50F11, and 50F45 and bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41. The Permittee shall replace broken or failed bags as needed.

(g) The Starch Drying and Handling Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall perform daily visible emission notations of the stacks' 69, 73, 177, 265, 360, and 361 exhausts.

(B) The Permittee shall perform daily visible emission notations of stacks' 70, 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 104, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 366, 426, and 432 exhausts.

(2) Opacity Readings
The Permittee shall perform daily opacity readings of stacks' 82, 97, 98, 344, and 355 exhausts.

(3) Scrubber Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), a continuous monitoring system shall be installed and operated at all times when scrubber 40F26 is in operation. The monitoring system shall continuously measure and record the scrubber's recirculation rate for scrubber 40F26.

(B) Pursuant to 40 CFR 64 (CAM), a continuous monitoring system shall be installed and operated at all times when scrubber 43F80 is in operation. The monitoring system shall continuously measure and record the scrubber's recirculation rate for scrubber 43F80.

(C) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the recirculation rate across scrubber 40F3 at least once per day when emission unit 40D1 is in operation.

(D) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the recirculation rates across scrubbers 16F26 and 17F78 at least once per day when emission unit 16D4 is in operation.

(E) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the recirculation rates across scrubbers 16F27 and 17F79 at least once per day when emission unit 16D5 is in operation.

(4) Scrubber Failure Detection
The Permittee shall maintain scrubbers 40F3, 40F26, 43F80, 16F26, 17F78, 16F27, and 17F79 and shall repair or replace broken components as needed.

(5) Baghouse Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouses 30F2, 30F3, 46F231, and 46F232 used in conjunction with emission units 30D1 and 46D200 at least once per day when the respective emission units are in operation

(B) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 19F400, 19F402, 30F15, and 50F102 used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, 41F200, 41G200, 41F201, 41G201, 19F400, 19G401, 30G1, and 50D101 at least once per day when the respective emission units are in operation.

(6) Broken or Failed Bag Detection
The Permittee shall maintain baghouses 40F7, 25F2, 25F1, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 41F20, 41F21, 19F400, 19F402, 30F2, 30F3, 41F14, 41F15, 30F15, 46F231, 46F232, 50F102, 50F106, 51FCC, 51FDD, 18FBB, 7F25, and 7F26 and bin vents 7F8, 7F9, 43F90, 7F20, 7F21, 7F22, 7F33, 7F34, 7F35, 7F91, 7F92, 41F10, 41F11, 41F22, 41F23, 41F13, 41F16, 41F17, 41F45, 33F44, 41F46, 41F47, 7F69, 7F70, 7F71, 7F72, and 7F73. The Permittee shall replace broken or failed bags as needed.

(h) The Starch Packaging and Loadout Operations have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall perform daily visible emission notations of the stack 177 exhaust.

(B) The Permittee shall perform daily visible emission notations of the stacks' 102, 189, 254, 332, 333, 334, 355, 361, and 404 exhausts.

(2) Opacity Readings
The Permittee shall perform daily opacity readings of stacks' 189 and 355 exhausts.

(3) Baghouse Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouse 17F10 at least once per day when emission units 17Z38 and 17V04 are in operation.

(B) The Permittee shall record the pressure drop across baghouses 20F61 and 20F60 used in conjunction with emission units 20F61 and 20F60 at least once per day when the respective emission units are in operation.

(4) Broken or Failed Bag Detection
The Permittee shall maintain baghouses 17F6, 17F58, 16F5, 17F27, 17F10, 17F01, 17F2, 41F18, 41F7, 41F181, 41F182, 41F183, 41F186, 41F44, 17F03, 17F04, 17F15, 16F25, 17F14, 41F8, 41F81, 41F82, 20F1, 20F50, 20F61, 20F60, 20F78, 20F79, 16F100, and 41F6. The Permittee shall replace broken or failed bags as needed.

(i) The Boiler Support Facilities have applicable compliance monitoring conditions as specified below:

(1) Visible Emissions Notations
The Permittee shall perform daily visible emission notations of the stacks' 119, 199, 200, 201, 203, 204, and 205 exhausts.

(2) Broken or Failed Bag Detection
The Permittee shall maintain baghouse 31F22 and bin vents 31F21, 31F19, 31F20, 9F32, 31F1, and 31F18. The Permittee shall replace broken or failed bags as needed.

(j) The Utility Area has applicable compliance monitoring conditions as specified below:

(1) Opacity Readings
Pursuant to 40 CFR 64 (CAM), the Permittee shall perform daily opacity readings of the stack 197 exhaust.

(2) COMS Downtime
Whenever a COMS is malfunctioning or will be down for maintenance, or repairs for a period of twenty-four (24) hours or more, a backup COMS is not online within twenty-four (24) hours of shutdown of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(3) CEMS Downtime
Whenever the SO_2 continuous emission monitor is malfunctioning or will be down for repairs or adjustments for a period of twenty-four (24) hours or more, a calibrated backup CEMS shall be brought online within twenty-four (24) hours of shutdown of the primary CEMS, if possible. If this is not possible, a fuel analysis, pursuant to 326 IAC 3-7-2(a) or (b), shall be conducted to allow for determination of compliance with all SO_2 emission limits.

(4) Visible Emissions Notations
The Permittee shall perform daily visible emission notations of the stack 197 exhaust.

(5) Broken or Failed Bag Detection
The Permittee shall maintain baghouse 31F2 and replace broken or failed bags as needed.

(k) The Wastewater Treatment Anaerobic Digester has applicable compliance monitoring conditions as specified below:

(1) The presence of a flare pilot flame (for flares 21Z1 and 34Z1) shall be monitored using a thermocouple, or any other equivalent device, to detect the presence of a flame.

(2) Scrubber Parametric Monitoring

(A) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pH across scrubber 34V11 at least once per day when digester 34V10 is in operation.

(B) Pursuant to 40 CFR 64 (CAM), a continuous monitoring system shall be installed and operated at all times when scrubber 34V11 is in operation. The monitoring system shall continuously measure and record the scrubber's recirculation rate for scrubber 34V11.

(3) Scrubber Failure Detection
The Permittee shall maintain scrubber 34V11 and shall repair or replace broken components as needed.

These monitoring conditions are necessary because the control devices for these facilities must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit Renewal No. T157-27029-00003. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

(a) For clarity, IDEM has changed references to the general conditions: "in accordance with Section B", "in accordance with Section C", or other similar language, to "Section C ... contains the Permittee's obligations with regard to the ... required by this condition."

(b) IDEM has decided that the phrases "no later than" and "not later than" are clearer than "within" in relation to the end of a timeline. Therefore, all timelines have been switched to "no later than" or "not later than" except for the timelines in Section B - Emergency Provisions and Section B - Annual Fee Payment. The underlying rules state "within."

(c) 326 IAC 2-7 requires that "a responsible official" perform certain actions. 326 IAC 2-7-1(34) allows for multiple people to meet the definition of "responsible official." Therefore, IDEM is revising all instances of "the responsible official" to read "a responsible official."

(d) IDEM has decided to clarify what rule requirements a certification needs to meet. IDEM has decided to remove the last sentence dealing with the need for certification from the forms because the Conditions requiring the forms already address this issue.

(e) Section B - Duty to Provide Information has been revised to remove the duplicative requirement for submittal of the certification by a "responsible official".

(f) To clarify that Section B - Certification only states what a certification must be, IDEM has revised the condition. IDEM, OAQ has decided to clarify Section B - Certification to be consistent with the rule.

(g) IDEM has added a new paragraph (b) to handle a future situation where the Permittee adds units that need preventive maintenance plans developed. IDEM, OAQ has decided to clarify Section B - Preventive Maintenance Plan to be consistent with the rule.

(h) IDEM, OAQ is revising Section B - Emergency Provisions to delete paragraph (h). 326 IAC 2-7-5(3)(C)(ii) allows that deviations reported under an independent requirement do not have to be included in the Quarterly Deviation and Compliance Monitoring Report.

(i) IDEM, OAQ has decided that having a separate condition for the reporting of deviations is unnecessary. Therefore, IDEM has removed Section B - Deviation form Permit Requirements and Conditions and added the requirements of that condition to Section C - General Reporting Requirements. Paragraph (d) of Section C - General Reporting Requirements has been removed because IDEM already states the timeline and certification needs of each report in the condition requiring the report. Subparagraph (g)(4) has been revised to match the underlying rule language.

(j) IDEM has decided to state which rule establishes the authority to set a deadline for the Permittee to submit additional information. Therefore, Section B - Permit Renewal has been revised.

(k) IDEM has decided to state that no notice is required for approved changes in Section B - Permit Revision Under Economic Incentives and Other Programs.

(l) IDEM has added 326 IAC 5-1-1 to the exception clause of Section C.1 - Opacity, since 326 IAC 5-1-1 does list exceptions.

(m) IDEM has revised Section C - Incineration to more closely reflect the two underlying rules.

(n) IDEM has removed the first paragraph of Section C - Performance Testing due to the fact that specific testing conditions elsewhere in the permit will specify the timeline and procedures.

(o) IDEM has revised Section C - Compliance Monitoring. The reference to recordkeeping has been removed due to the fact that other conditions already address recordkeeping. The voice of the condition has been change to clearly indicate that it is the Permittee that must follow the requirements of the condition.

(p) IDEM, OAQ has decided to move Section C.11 - Maintenance of Continuous Opacity Monitoring Equipment into Section D.10 - Emission Unit Operating Conditions (Utility Area), since both conditions cover the Permittee's requirement for COMS.

(q) IDEM, OAQ has decided to move Section C.12 - Maintenance of Continuous Emission Monitoring Equipment into Section D.10 - Emission Unit Operating Conditions (Utility Area), since both conditions cover the Permittee's requirement for CEMS.

(r) IDEM has removed Section C - Monitoring Methods. The conditions that require the monitoring or testing, if required, state what methods shall be used.

(s) IDEM has revised Section C - Response to Excursions or Exceedances. The introduction sentence has been added to clarify that it is only when an excursion or exceedance is detected that the requirements of this condition need to be followed. The

word "excess" was added to the last sentence of paragraph (a) because the Permittee only has to minimize excess emissions. The middle of paragraph (b) has been deleted as it was duplicative of paragraph (a). The phrase "or are returning" was added to subparagraph (b)(2) as this is an acceptable response assuming the operation or emission unit does return to normal or its usual manner of operation. The phrase "within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable" was replaced with "normal or usual manner of operation" because the first phrase is just a limited list of the second phrase. The recordkeeping required by paragraph (e) was changed to require only records of the response because the previously listed items are required to be recorded elsewhere in the permit.

(t) IDEM has revised Section C - Actions Related to Noncompliance Demonstrated by a Stack Test. The requirements to take response steps and minimize excess emissions have been removed because Section C - Response to Excursions or Exceedances already requires response steps related to exceedances and excess emissions minimization. The start of the timelines was switched from "the receipt of the test results" to "the date of the test." There was confusion if the "receipt" was by IDEM, the Permittee, or someone else. Since the start of the timelines has been moved up, the length of the timelines was increased. The new timelines require action within a comparable timeline; and the new timelines still ensure that the Permittee will return to compliance within a reasonable timeframe.

(u) Paragraph (b) of Section C - Emission Statement has been removed. It was duplicative of the requirement in Section C - General Reporting Requirements.

(v) The voice of paragraph (b) of Section C - General Record Keeping Requirements has been changed to clearly indicate that it is the Permittee that must follow the requirements of the paragraph.

(w) IDEM has decided to simplify the referencing in Section C - Compliance with 40 CFR 82 and 326 IAC 22-1.

(x) IDEM, OAQ has decided to clarify Section D - Testing Requirements to state that testing shall be in accordance with 326 IAC 3-6 instead of in accordance another permit condition that refers to 326 IAC 3-6.

(y) IDEM, OAQ has included the replacement of an instrument as an acceptable action.

(z) The word "status" has been added to Section D - Record Keeping Requirements. The Permittee has the obligation to document the compliance status. The wording has been revised to properly reflect this.

(aa) The word "status" has been added to Section D - Reporting Requirements. The Permittee has the obligation to document the compliance status. The wording has been revised to properly reflect this.

(bb) The phrase "of this permit" has been added to the paragraph of the Quarterly Deviation and Compliance Monitoring Report to match the underlying rule.

(cc) All references to emission units that have been removed from the source have been removed from the corresponding conditions.

(dd) All PM/PM_{10} limits have been clarified as separate PM limits and PM_{10} limits.

(ee) Since the PSD BACT requirements in Condition D.1.1 were determined for the baghouse as opposed to each individual emission unit controlled by the baghouse, then all existing

emission units controlled by baghouse 08F300 have been listed as being subject to the BACT requirements. Also, the corresponding BACT limits have been re-calculated using actual airflow instead of standard airflow.

(ff) The particulate limits in Condition D.1.2 have been removed, pursuant to 326 IAC 6-3-1(c)(1), because the PSD BACT (326 IAC 2-2-3) particulate matter limitations are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate. All subsequent conditions in Section D.1 have been renumbered accordingly.

(gg) Renumbered condition D.1.3 has been revised because stack testing of baghouse 08F300 is required once every five (5) years from the date of the most recent valid compliance demonstration in order to demonstrate compliance with Condition D.1.1.

(hh) Since the PSD BACT requirements in Condition D.2.1 were determined for the scrubber as opposed to each individual emission unit controlled by the baghouse, then all existing emission units controlled by scrubber 15F401 have been listed as being subject to the BACT requirements.

(ii) Condition D.2.3 has been revised because stack testing of scrubber 15F401 is required once every five (5) years from the date of the most recent valid compliance demonstration in order to demonstrate compliance with Condition D.2.1.

(jj) A compliance monitoring requirement has been added as Condition D.2.5 for scrubber 15F401 of the Wet Milling Operations. All subsequent conditions in Section D.2 have been renumbered accordingly.

(kk) Condition D.3.1(a) has been clarified to indicate, for each emission unit, which pollutants have BACT requirements as opposed to indicating which pollutants do not have BACT requirements.

(ll) The limits pursuant to 326 IAC 6-2-4 in Condition D.3.4 have been renumbered as Condition D.3.2.

(mm) The particulate limits in Condition D.3.2 have been renumbered as Condition D.3.3 and have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(nn) The SO_2 limits in Condition D.3.3 have been removed because dryers 21D6, 21D7, and 21D8 are no longer in operation and have been removed from the source. The corresponding record keeping requirements have also been removed.

(oo) VOC BACT limits have been added as Condition D.3.4 for emission unit 21D501 of the Feed/Meal/Germ Production Operations in order to clarify that compliance with the PSD BACT limits in Condition D.3.1(d) shall satisfy compliance with 326 IAC 8-1-6.

(pp) The compliance monitoring requirements in Condition D.3.5 have been removed because dryers 21D6, 21D7, and 21D8 are no longer in operation and have been removed from the source. All subsequent conditions in Section D.3 have been renumbered accordingly.

(qq) Condition D.3.8 has been removed because it contained duplicative requirements that are located in renumbered Condition D.3.5.

(rr) Renumbered condition D.3.7 has been revised because stack testing of the scrubbers and thermal oxidizers is required once every five (5) years from the date of the most recent valid compliance demonstration in order to demonstrate compliance with Condition

D.3.1. Stack testing has also been added for emission units 21G351, 21G352, and 21U314.

(ss) Renumbered Condition D.3.9 has been clarified to indicate which specific emission units have applicable scrubber parametric monitoring requirements as well as which scrubber parametric monitoring requirements are pursuant to 40 CFR 64 (CAM).

(tt) Renumbered Condition D.3.9 has been clarified to indicate that, where the specified emission units have been stack tested, the 1-hr average flow rate reading should be compared with the minimum flow rate established during the latest stack test and not the manufacturer's specifications.

(uu) A compliance monitoring requirement has been added as Condition D.3.10 for scrubbers 21F13, 21F311, and 21F312 of the Feed/Meal/Germ Production Operations.

(vv) The compliance determination requirements for the thermal oxidizer temperature in Condition D.3.9 have been renumbered as Condition D.3.11 to indicate they are compliance monitoring requirements.

(ww) The baghouse parametric monitoring requirements in Condition D.3.13 have been removed because visible emission notations historically have shown to be sufficient for compliance monitoring of these specific types of emission units. The corresponding record keeping requirements have also been removed.

(xx) The NESHAP requirements in Conditions D.3.16 and D.3.17 have been removed and replaced with Section E.1. The NESHAP requirements for 40 CFR 60, Subpart Dc are now located in corresponding Attachment A.

(yy) The particulate limits in Condition D.4.1 have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(zz) The baghouse parametric monitoring requirements in Condition D.4.5 have been removed because visible emission notations historically have shown to be sufficient for compliance monitoring of these specific types of emission units. The corresponding record keeping requirements have also been removed.

(aaa) A compliance monitoring requirement has been added as Condition D.4.5 for scrubber 9E1 of the Syrup Refining Operations.

(bbb) Several of the emission units and their corresponding conditions in Section D.5 - Starch Modification have been relocated into newly added Section D.6 - Starch Reaction in order to differentiate the two distinct processes. All subsequent sections and conditions have been renumbered accordingly.

(ccc) Since the PSD BACT requirements for VOC in Condition D.5.1 were determined for the scrubber as opposed to each individual emission unit controlled by the scrubber, then all existing emission units controlled by scrubber 45F212 have been listed as being subject to the BACT requirements.

(ddd) The sulfur dioxide limits in Condition D.5.3 have been revised as PSD avoidance limitations in Condition D.5.2.

(eee) The particulate limits in Condition D.5.4 have been renumbered as Condition D.5.3 and have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(fff) HAP avoidance limits have been added as Condition D.5.5 in order to render the requirements of 326 IAC 2-4.1 not applicable to the source.

(ggg) Condition D.5.10 has been clarified to indicate that the scrubber parametric monitoring requirements are pursuant to 40 CFR 64 (CAM).

(hhh) The baghouse parametric monitoring requirements in Condition D.5.11 have been removed because visible emission notations historically have shown to be sufficient for compliance monitoring of these specific types of emission units. The corresponding record keeping requirements have also been removed.

(iii) A compliance monitoring requirement has been added as Condition D.5.11 for scrubber 45F212 of the Starch Modification Operations. All subsequent conditions in Section D.5 have been renumbered accordingly.

(jjj) The PSD requirements in renumbered Condition D.7.1(a) have been amended in order to move emission units 51FDD and 18FBB from the Starch Packaging and Loadout Operations to the Starch Drying and Handling Operations.

(kkk) PSD BACT for NO_x in renumbered Condition D.7.1(d) was determined as the use of low-NO_x burners rated at 0.04 lb/MMBtu, and corresponding lb/hr emission rates were calculated from the units' capacities. Starch Spray Dryer #2 (46D200) was originally permitted as having a capacity of 45 MMBtu/hr with a corresponding NO_x emission limit of 1.8 lb/hr. However, Starch Spray Dryer #2 (46D200) was constructed with a capacity of 25 MMBtu/hr. Therefore, the corresponding NO_x emission limit has been revised to 1.0 lb/hr.

(lll) The BACT requirements for the propylated starch reactors in Section D.5 for the Starch Modification Operations have also been listed in Condition D.7.1(e) for clarity because several of the emission units in Section D.7 are mentioned in the BACT. Stack testing of these emission units in Condition D.7.6(f) has been restated accordingly.

(mmm) The PSD avoidance limits in renumbered Condition D.7.2(a) have been clarified to include additional emission limits which were accounted for during their construction approval but were inadvertently not included in Part 70 Operating Permit No. T157-6009-00003.

(nnn) The PSD avoidance limits in Conditions D.6.3(b)(1) and D.6.3(c) have been renumbered as Conditions D.7.2(d) and D.7.2(e) to include emission limits which were accounted for during previous construction approvals but were inadvertently listed as being needed for showing compliance with 326 IAC 6-3-2.

(ooo) The opacity requirements in Condition D.6.3(b)(2) have been removed. These requirements were a previous method of compliance monitoring utilized by IDEM that is no longer in practice and has been replaced with requirements such as visible emission notations and/or parametric monitoring.

(ppp) The particulate limits in renumbered Condition D.7.3 have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(qqq) The opacity requirements in Condition D.6.5(b) have been removed. These requirements were a previous method of compliance monitoring utilized by IDEM that is no longer in practice and has been replaced with requirements such as visible emission notations and/or parametric monitoring.

(rrr) Condition D.7.6(a) has been added because stack testing of emission units 19G401, 40G20, and 40G21 is required once every five (5) years from the date of the most recent valid compliance demonstration in order to demonstrate compliance with Condition D.7.1(a) because of previous non-compliance.

(sss) Conditions D.7.6(c) and D.7.6(d) have been added because stack testing of emission units 46D200 and 51DAA is required in order to demonstrate compliance with Condition D.7.1(b).

(ttt) Renumbered Conditions D.7.7(c) and D.7.7(d) have been revised to remove the unit-specific requirements for emission units 50D101 and 50F106. The unit-specific requirement in Condition D.6.7(f) has also been removed.

(uuu) Renumbered Condition D.7.8 has been clarified to indicate that these scrubber parametric monitoring requirements are pursuant to 40 CFR 64 (CAM).

(vvv) The baghouse parametric monitoring requirements in renumbered Condition D.7.9 have been revised because visible emission notations historically have shown to be sufficient for compliance monitoring of specific types of emission units.

(www) A compliance monitoring requirement has been added as Condition D.7.10 for emission units 40D20, 43D71, 40D1, 16D4, and/or 16D5 of the Starch Drying and Handling Operations. All subsequent conditions in Section D.7 have been renumbered accordingly.

(xxx) Condition D.6.11(b) has been removed from the recordkeeping requirements because this confidential information has been submitted to IDEM as a part of this permitting application.

(yyy) The PSD avoidance limits in Condition D.8.2 have been added to include emission limits which were accounted for during previous construction approvals but were inadvertently listed as being needed for showing compliance with 326 IAC 6-3-2. All subsequent conditions in Section D.8 have been renumbered accordingly.

(zzz) The particulate limits in renumbered Condition D.8.3 have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(aaaa) The opacity requirements in Condition D.7.3(b)(1) have been removed. These requirements were a previous method of compliance monitoring utilized by IDEM that is no longer in practice and has been replaced with requirements such as visible emission notations and/or parametric monitoring.

(bbbb) Renumbered Condition D.8.5 has been revised because stack testing of emission unit 41F186 is required once every five (5) years from the date of the most recent valid compliance demonstration in order to demonstrate compliance with Condition D.8.1(a) because of previous non-compliance.

(cccc) The baghouse parametric monitoring requirements in renumbered Condition D.8.7 have been revised because visible emission notations historically have shown to be sufficient for compliance monitoring of specific types of emission units.

(dddd) The particulate limits in renumbered Condition D.9.2 have been revised as particulate matter limitations that are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate.

(eeee) An opacity limitation has been added in Condition D.9.3 pursuant to the provisions of NSPS, Subpart Y. All subsequent conditions in Section D.9 have been renumbered accordingly.

(ffff) Condition D.9.5 has been added because stack testing of coal processing system is required in order to demonstrate compliance with Condition D.9.3.

(gggg) The baghouse parametric monitoring requirements in Condition D.8.5 have been removed because visible emission notations historically have shown to be sufficient for compliance monitoring of these specific types of emission units. The corresponding record keeping requirements have also been removed.

(hhhh) Condition D.9.5 has been removed because 326 IAC 2-2.5 (Pollution Control Project) has been repealed. The corresponding compliance monitoring requirement in Condition D.9.17 has also been removed.

(iiii) Condition D.10.5 has been added in order to clarify the opacity limit previously stated in Condition D.9.12.

(jjjj) The renumbered Conditions D.10.9, D.10.10, and D.10.11 have been relisted as compliance determination requirements instead of compliance monitoring requirements.

(kkkk) The renumbered Condition D.10.12 has been clarified to reference the opacity limit in Condition D.10.5 and to state the requirements are pursuant to 40 CFR 64 (CAM).

(llll) Renumbered D.10.13 has been revised because IDEM has determined that no additional monitoring will be required during COM downtime, until the COM has been down for twenty-four (24) hours. This allows the Permittee to focus on the task of repairing the COM during the first twenty-four (24) hour period. After twenty-four (24) hours of COM downtime, the Permittee will be required to conduct Method 9 readings for thirty (30) minutes. Once Method 9 readings are required to be performed, the readings should be performed twice per day at least 4 or 6 hours apart, rather than once every four (4) hours, until a COMS is back in service.

(mmmm) Renumbered D.10.15 has been revised because IDEM has determined that no additional monitoring will be required during SO_2 CEMS downtime, until the CEM has been down for twenty-four (24) hours.

(nnnn) Renumbered Condition D.11.5 has been clarified to indicate that these scrubber parametric monitoring requirements are pursuant to 40 CFR 64 (CAM).

(oooo) A compliance monitoring requirement has been added as Condition D.11.6 for scrubber 34V11. All subsequent conditions in Section D.11 have been renumbered accordingly.

(pppp) The 326 IAC 6-3-2 particulate limits for Section D.12 have been relocated to renumbered Condition D.12.1. All subsequent conditions in Section D.12 have been renumbered accordingly.

(qqqq) A VOC avoidance limit in Condition D.12.4 has been added in order to include render the requirements of 326 IAC 8-4-6 not applicable to Tank #3. The corresponding recordkeeping and recording requirements have also been added in Conditions D.12.5 and D.12.6.

The permit has been revised as follows:

SECTION D.1 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

~~(1) Vibrating Corn Cleaning Screen Aspiration System 14JAA,~~

~~(2) Corn Storage Silo 13VAA,~~

~~(3) Corn Storage Silo 13VBB,~~

~~(4) Vibrating Corn Cleaning Pneumatic Transfer 21FMM, and~~

~~(5) Corn Bucket Elevator – Silo to Steeps 14UBB.~~

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(b) Best available control technology (BACT) ~~for PM and PM_{10} (Filterable and Condensable) is an emission rate of 0.004 gr/dscf~~ for baghouse 08F300 **shall be the following**:

(1) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(~~1~~**3**) ~~The total~~ PM ~~/PM_{10} (Filterable and Condensable)~~ emissions from baghouse 08F300~~, which controls Vibrating Corn Cleaning System 14JAA, and Corn Bucket Elevator 14UBB, Corn Storage Silos 13VAA and 13VBB, and Vibrating Corn Cleaning Pneumatic Transfer 21FMM in addition to emission units 12V101, 12V102, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 8U39, 8U41, 14V1, 14J4, 14J5 and 14U9,~~ shall **not exceed** ~~be limited to 1.18~~ **1.16** pounds per hour**.**~~; and~~

(4) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(~~2~~**5**) The opacity from the baghouse 08F300 **shall** not exceed 3%.

~~D.1.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]~~

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from emission units 12V101, 12V102, 12U2, 12U4, 12U5, 13U6, 13U7, 13U8, 8U39, 8U41, 14V1, 14J4, 14J5, 14U9, 13V1, 13V2, 13V3, 13V4, 13V5, (all emission units exhausting to stack 433) shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and~~

~~P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and~~
~~P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughput of the respective facility is treated as confidential.~~

Compliance Determination Requirements

D.1.~~3~~**2** Particulate Control

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D.1.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

D.1.4 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

~~Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup of Vibrating Corn Cleaning System 14JAA, Bucket Elevator 14UBB, Corn Silos 13VAA and 13VBB, and Vibrating Corn Cleaning Pneumatic Transfer 21FMM, the Permittee shall perform PM and PM_{10} testing on baghouse 08F300 to verify compliance with Condition D.1.1 (b)(1), utilizing methods as approved by the Commissioner, and furnish the Commissioner a written report of the results of such performance tests.~~

~~These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing.~~

In order to demonstrate compliance with Condition D.1.1, the Permittee shall perform PM and PM_{10} testing of baghouse 08F300 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the

Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.5 Visible Emissions Notations **[40 CFR 64]**

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D.1.6 **Baghouse Parametric** Monitoring ~~for Baghouses~~ **[40 CFR 64]**

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D.1.7 Broken or Failed Bag Detection **– Multi-Compartment Baghouse**

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SECTION D.2 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for sulfur dioxide (SO_2) and VOC using the BACT:

~~New Units:~~

~~(1) Steep Tanks 14V400, 14V401, 14V402, 14VDD, 14VEE, 14VFF, 14VGG and 14VHH;~~

~~(2) High DS Starch Vacuum Filter 18FAA;~~

~~(3) Two (2) Germ Cooler Rotary Airlock Valves 21D3 (currently operating as Germ Dryer 21D3);~~

~~(4) The “8 Building” Process Tanks and screens;~~

~~(5) Gluten Vacuum Filters 21F5 and 21F6;~~

~~(6) Gluten Vacuum Filter Pumps 21C105 and 21C6;~~

~~(7) Fiber Dewatering Screens 21FNN; and~~

~~Existing Units:~~

~~15V210, 14V17, 14V18, 14V20, 14V96, 15J14, 15J24, 15J53, 15J5A, 15V110, 15V111, 15V112, 15V113, 15V114, 15V139, 15V17, 15V19, 15V2, 15V21, 15V22, 15V23, 15V24, 15V27, 15V30, 15V31, 15V34, 15V35, 15V36, 15V37, 15V38, 15V40, 15V41, 15V42, 15V43, 15J100, 15J15, 15J16, 15J17, 15J18, 15J19, 15J20, 15J21, 15J22, 15J220, 15J221, 15J86, 15J87, 15J88, 15J89, 15J99, 15V25, 15V26, 15V33, 14V10, 14V11, 14V12, 14V13, 14V14, 14V15, 14V16, 14V19, 14V3, 14V4, 14V5, 14V6, 14V7, 14V8, 14V9, 15J101, 15J200, 15J201, 18F510, 18V520, 18V522, 21F100, 21F101, 21U23, 21V130, 21V159, 21V56, 21V57, 21V58, 21V59, 21C7, 21F7, 21C8, 21F8, 21C9, 21F9, 21C10, 21F10, 15J60-15J67, 15J80-15J85, 15J68-15J71, 15J92, 15J 212, 15J213,~~

~~15J72-15J75, 15J91, 15J76-15J79, 15J90, 15J214, 15J215, 15J217-15J219, and 18V413~~

(1) Wet Milling Operations, including 14V3 through 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210;

(2) Feed/Meal/Germ Production Operations, including 21D3;

(3) Syrup Refining Operations, including 18V413; and

(4) Insignificant Activities, including 14V600, 14P510, 15V33, 21U403, 18X32, and 14X20.

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Compliance Determination Requirements

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D.2.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

~~(a) Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup of the steep tanks, the Permittee shall perform SO_2 and VOC testing on scrubber 15F401 in order to verify compliance with D.2.1(b)(1), (2), and (c), utilizing methods as approved by the Commissioner.~~

~~(b) These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.~~

In order to demonstrate compliance with Conditions D.2.1(b)(1), D.2.1(b)(2), and D.2.1(c)(2), the Permittee shall perform SO_2 and VOC testing of scrubber 15F401 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.4 **Scrubber Parametric** Monitoring ~~for Scrubber~~ **[40 CFR 64]**

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D.2.5 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 15F401 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.~~5~~**6** Record Keeping Requirements

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SECTION D.3 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM**,** ~~and~~ PM_{10}, SO_2, VOC, and NO_x using the BACT:

(1) RST Feed Dryer (21D301) – ~~No NOx Emissions,~~ **BACT only for PM, PM_{10}, SO_2, and VOC;**

(2) Rotary Steam Tube Germ Dryer (21D401) – ~~No NOx Emissions,~~ **BACT only for PM, PM_{10}, SO_2, and VOC;**

*** * * * ***

(5) Fiber Flash Dryer Furnace (21B501) – BACT only for ~~NO_x and VOC~~ **PM, PM_{10}, VOC, and NO_x;**

(6) Feed Cooler (21D8) ~~(Formerly Meal Dryer 21D8)~~ –**BACT only for PM and PM_{10};**

(7) Corn Cleanings Receiver (21F304) – BACT only for PM and PM_{10};

(8) Feed Loadout Hopper (21V125) – BACT only for PM and PM_{10}; and

(~~7~~**9**) Regenerative Thermal Oxidizers (48F201and 48F202) – BACT only for **PM, PM_{10}, VOC, and** NO_x.

(b) The following combined emission limits are established as BACT for the above dryers:

For these units, the BACT for PM **and** PM_{10} is the use of scrubber**s** 21F13 **and 21F311** and thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for PM **and** PM_{10}:

(1) ~~the~~ PM ~~and PM_{10} (Filterable and Condensable)~~ emissions from the thermal oxidizers and the fiber dryer furnace shall ~~each~~ not exceed 0.031 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 0.031 gr/dscf.

(~~2~~**3**) ~~the total~~ PM ~~and total PM_{10} (Filterable and Condensable)~~ emissions from the thermal oxidizers and the fiber dryer furnace shall ~~each be limited to~~ **not exceed** 7.38 lbs/hr. ~~and~~

(4) PM_{10} (Filterable and Condensable) emissions from the thermal oxidizers and the fiber dryer furnace shall not exceed 7.38 lbs/hr.

(~~3~~**5**) ~~the~~ Exhaust opacity of the combined gas flow from the thermal oxidizers and the fiber dryer furnace shall not exceed 8%.

(c) For these units, except the Fiber Flash Dryer Furnace 21B501**,** ~~and~~ Feed Cooler 21D8, **Corn Cleanings Receiver 21F304, and Feed Loadout Hopper 21V125,** the BACT for SO_2 is the use of pH adjusted scrubber 21F13. The following emission limits are the BACT requirements for SO_2:

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(g) The following ~~new and existing~~ emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Storage Bins 8V121, 8V123, 8V124;

(2) Meal Storage Bin 8V63;

(3) Meal/Germ Storage Bin 8V53; **and**

(4) Germ Storage Bin 8V54~~;~~**.**

~~(5) Gluten Meal Transfer to Storage Bin 12FAA;~~

~~(6) Gluten Meal Storage Bin and Loadout 12VAA, 12UAA, and 12UBB; and~~

~~(7) Germ Storage Bin and Loadout 12VCC and 12UCC.~~

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses ~~rated at a maximum emission rate of 0.005 gr/dscf~~ and shall meet the following emissions limitations:

(1) ~~the total~~ PM **and** PM_{10} (Filterable and Condensable) emissions from the following baghouses shall ~~be limited to~~ **not exceed**:

~~Emission Unit~~	~~Baghouse~~	~~Lbs/hr~~
~~8V121~~	~~8F1~~	~~0.08~~
~~8V123~~	~~8F3~~	~~0.08~~
~~8V124~~	~~8F4~~	~~0.08~~
~~8V63~~	~~8F63~~	~~0.08~~
~~8V53~~	~~8F53~~	~~0.08~~
~~8V54~~	~~8F54~~	~~0.08~~
~~12FAA~~	~~12FAA~~	~~0.40~~
~~12UAA, 12UBB, 12VAA~~	~~12FBB~~	~~0.12~~
~~12UCC,12VCC~~	~~12FCC~~	~~0.17~~

Emission Unit	Baghouse	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
8V121	8F1	0.08	0.08
8V123	8F3	0.08	0.08
8V124	8F4	0.08	0.08
8V63	8F63	0.08	0.08
8V53	8F53	0.08	0.08
8V54	8F54	0.08	0.08

~~and;~~

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(~~2~~**4**) ~~the~~ Opacity from the baghouses shall not exceed 3%.

(h) The following ~~existing and new~~ emission units shall be controlled for PM and PM_{10} (Filterable and Condensable) using best available control technology (BACT):

(1) Feed Mill 21G351,

(2) Feed Mill 21G352, and

(3) Feed Milling Loadout Conveyor 12U314.

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of a wet scrubber ~~limited to an emission rate of 0.0089 gr/scf;~~ and:

(1) PM emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.0089 gr/scf.

(~~1~~**3**) ~~the total~~ PM ~~/PM_{10} (Filterable and Condensable)~~ emissions from scrubber 21F312 shall ~~be limited to~~ **not exceed** 0.204 lb/hr.~~; and~~

(4) PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall not exceed 0.204 lb/hr.

(~~2~~**5**) ~~the~~ Opacity from the scrubber shall not exceed 8%.

~~D.3.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]~~

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate (1) the total PM /PM_{10} (Filterable and Condensable) emissions from scrubber 21F312 shall be limited to 0.204 lb/hr; and~~

~~jemissions from facilities 21D1, 21D2, 21D3, 21D6, 21D7, 21D8, 21V60, 21V61, 12U11, 8V121 through 8V124, 8V62, 8V63, 8V53, 8V54, AC23, AC24, 21G51, 21G52, AC6, AC7, AC8, and 8V99 shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~D.3.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-2] [326 IAC 7-2-1]~~

~~Pursuant to 326 IAC 7-1.1-2 (SO_2 Emissions Limitations), the SO_2 emissions from combustion in dryers 21D6, 21D7, and 21D8 shall not exceed five-tenths (0.5) pounds per million Btu (MMBtu) per dryer when combusting No. 2 fuel oil. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. This condition will expire upon the operation of new feed dryers, RST Feed Dryer and Fiber Flash Dryer.~~

D.3.~~4~~**2** Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

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D.3.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities AC8, 8V122, 8V62, 8U39, 8U41, AC23, AC24, and 12U11 shall be limited as follows:

(a) The particulate emission rate from baghouse 21F36 shall not exceed 0.86 lb/hr.

(b) The particulate emission rates from baghouses 8F2 and 8F62 shall not exceed 0.08 lb/hr, each.

(c) The particulate emission rate from baghouse 12F39 shall not exceed 0.21 lb/hr.

(d) The particulate emission rate from baghouse 12F40 shall not exceed 0.51 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.3.4 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

(a) The following emission units shall be controlled for VOC using the BACT:

(1) RST Feed Dryer (21D301) – BACT only for PM, PM_{10}, SO_2, and VOC;

(2) Rotary Steam Tube Germ Dryer (21D401) – BACT only for PM, PM_{10}, SO_2, and VOC;

(3) Gluten Flash Dryer (48D101);

(4) Fiber Flash Dryer (21D501); and

(5) Regenerative Thermal Oxidizers (48F201 and 48F202) – BACT only for PM, PM_{10}, VOC, and NO_x.

(b) For these units, the BACT for VOC is the use of scrubber 21F13 followed by thermal oxidizers 48F201 and 48F202. The following emission limits are the BACT requirements for VOC:

(1) When the inlet VOC to the scrubber is more than 100 lbs/hr, the scrubber and thermal oxidizers shall have a minimum overall VOC control efficiency of 95%, and the outlet thermal oxidizer VOC emission rate shall not exceed 3.16 lbs/hr.

(2) When the inlet VOC rate to the scrubber is 100 lbs/hr or less, the thermal oxidizers shall have an outlet VOC concentration of less than 10 ppmvw and the outlet VOC emissions rate shall not exceed 3.16 lbs/hr.

Compliance with the above PSD BACT limits shall limit the potential emissions of VOC from emission unit 21D501 to less than 25 tons per year. Therefore, compliance with these 326 IAC 2-2-3 limits shall satisfy compliance with 326 IAC 8-1-6.

Compliance Determination Requirements

~~D.3.5 Sulfur Dioxide Emissions and Sulfur Content~~

~~Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate compliance with Condition D.3.3 utilizing one of the following options:~~

~~(a) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;~~

~~(b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.~~

~~(1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and~~

~~(2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.~~

~~A determination of noncompliance pursuant to the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.~~

~~This condition will expire upon the operation of new feed dryers, RST Feed Dryer and Fiber Flash Dryer.~~

D.3.~~6~~**5** Particulate, Volatile Organic Compounds (VOC), and Sulfur Dioxide (SO_2) Control

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D.3.~~7~~**6** Particulate Control

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D.3.7 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

~~D.3.8 Volatile Organic Compounds (VOC) Control~~

~~In order to comply with Condition D.3.1(d), the scrubber 21F13 and the Regenerative Thermal Oxidization Units 48F201 and 48F202 for VOC control, shall be in operation and control emissions from emission units 21D301, 21D401, 48D101, and 21D501 at all times when the material feed system to any emission unit that it controls is in operation.~~

~~D.3.9 Thermal Oxidizer Temperature~~

~~(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizers for measuring operating temperature. For purposes of this condition continuous shall mean temperature measurement no less than once per minute. The output of this system shall be recorded as 3-hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1400°F.~~

~~(b) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in condition D.3.1(d), as approved by IDEM.~~

~~(c) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the compliant stack test.~~

D.3.~~10~~**8** Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) ~~Within 60 days after achieving the maximum production rate for dryers 21D301, 21D401, 48D101, and 21D501 but no later than 180 days after startup of the dryers,~~ **In order to demonstrate compliance with Conditions D.3.1(b), D.3.1(c), and D.3.1(d),** the Permittee shall perform PM, PM_{10}, opacity, VOC, and SO_2 testing on scrubber**s** 21F13 **and 21F311** and ~~Thermal Oxidation Units (~~thermal oxidizers 48F201 and 48F202~~) in order to determine compliance with Conditions D.3.1(b), (c), and (d)~~ utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration. PM_{10} is filterable and condensable PM.**

~~(b) Within 60 days after achieving the maximum production rate for but no later than 180 days after startup of the emissions units 12FAA, 12VCC, and 12UCC, the Permittee shall perform PM, PM_{10}, and opacity testing on baghouses 12FAA, and 12FCC, in order to determine compliance with Condition D.3.1 (g) utilizing methods as approved by the Commissioner.~~

(~~c~~**b**) ~~Within sixty (60) days after achieving maximum production rate for dryers 48D101, 48F201, 48F202, and 21B501 but no later than one hundred and eighty (180) days after the startup of operation,~~ **In order to demonstrate compliance with Condition D.3.1(f),** the Permittee shall ~~conduct~~ perform~~ance tests to measure the~~ **NO_x testing on the**

burners exhausting to stack S/V 17 ~~to determine compliance with Condition D.3.1~~ utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration**.

(c) In order to demonstrate compliance with Condition D.3.1(h), the Permittee shall perform PM and PM_{10} testing on emission units 21G351, 21G352, and 21U314 utilizing methods as approved by the Commissioner no later than 180 days after the issuance of this permit, T157-27029-00003. PM_{10} is filterable and condensable PM.

~~These tests shall be repeated for PM, PM_{10} (PM_{10} includes filterable and condensable PM_{10}), opacity, VOC, SO_2, and NOx, at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.~~

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.~~12~~**9** Visible Emissions Notations

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D.3.~~11~~**10** **Scrubber Parametric** Monitoring ~~for Scrubber~~

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D.3.11 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubbers 21F13, 21F311, and/or 21F312 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.12 Thermal Oxidizer Temperature

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizers for measuring operating temperature. For purposes of this condition continuous shall mean temperature measurement no less than once per minute. The output of this system shall be recorded as 3-hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1400°F. The Permittee shall take appropriate response steps whenever the three (3) hour average temperature of the thermal oxidizers is below 1400°F. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A three (3) hour average temperature that is below 1400°F is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Condition D.3.1(d).

(c) On and after the date the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the compliant stack test.

~~D.3.13 Monitoring for Baghouses~~

~~(a) The Permittee shall record the pressure drop across the baghouse 12F40, used in conjunction with facility 12U11, baghouses 12 FAA, 12FBB, and 12FCC at least once per day when the respective facilities are in operation.~~

~~(b) The Permittee shall record the pressure drop across the baghouse, used in conjunction with facilities 8V121 through 8V124, 8V62, 8V63, 8V53, and 8V54 at least once per day when the respective facilities are in operation.~~

~~(c) When, for any one reading, the pressure drop across the baghouse is outside of the normal range of 3 and 6 inches of water or a range established during the last stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(d) The instruments used for determining the pressure shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months.~~

D.3.~~14~~**13** Broken or Failed Bag Detection **– Multi-Compartment Baghouse**

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.~~15~~**14** Record Keeping Requirements

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SECTION D.4 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from facilities 9V31, 9V32, 9C30, 18C18, 9C40, 9V30, and 45C43 shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughputs of the respective facilities are treated as confidential.~~

The particulate emission rates from facilities 9V31, 9V30, 09C27, 18C18, and 9V144 shall be limited as follows:

(a) The particulate emission rate from bin vent 9F31 shall not exceed 0.03 lb/hr.

(b) The particulate emission rate from baghouse 09F30 shall not exceed 0.03 lb/hr.

(c) The particulate emission rate from baghouse 18F118 shall not exceed 0.03 lb/hr.

(d) The particulate emission rate from eductor/scrubber 9E1 shall not exceed 0.27 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

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D.4.3 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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D.4.~~3~~**5 Eductor/Scrubber Parametric** Monitoring ~~for Eductor/Scrubber~~

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D.4.6 Eductor/Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 9E1 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

~~D.4.5 Monitoring for Baghouses~~

~~(a) The Permittee shall record the pressure drops across baghouses 9F31, 9F32, 9F37, and 9F30, used in conjunction with facilities 9V31, 9V32, 9V30, and 9C30, at least once per day when the respective facilities are in operation.~~

~~(b) If, for any one reading, the pressure drop across the baghouses is outside of the normal range of 3 and 6 inches of water or a range established during the last stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(c) The instruments used for determining the pressure shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months.~~

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SECTION D.5 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3**, the following emission units shall be controlled for VOC using BACT**:

~~(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):~~

~~(1) Sodium Sulfate Storage Bin 45BVAA,~~

~~(2) Raw Starch Storage Bin 20VAA,~~

~~(3) Raw Starch Storage Bin 20VBB,~~

~~(4) Starch Slurry Storage Tank 18AVAA,~~

~~(5) Starch Feed Bin 41VAA,~~

~~(6) Starch Weigh Bin 33VAA,~~

~~(7) Dextrin Fluidizer Reactor 33RAA,~~

~~(8) Dextrin Fluidizer Surge Bin 33VBB,~~

~~(9) Dextrin Blending and Storage Bin 33VCC,~~

~~(10) Dextrin Blending and Storage Bin 33VDD, and~~

~~(11) Dextrin Product Screening Receiver 33FEE.~~

~~For these units, the BACT for PM, and PM_{10} (Filterable and Condensable) is the use of baghouses with an emission rate of 0.005 gr/dscf;~~

~~(1) As given in the following table:~~

~~Emission Units~~	~~Control Device ID~~	~~Total PM /PM_{10} (Filterable and Condensable) Emissions Rate (lb/hr)~~
~~45BVAA~~	~~45BFAA~~	~~0.06~~
~~20VAA~~	~~20FAA~~	~~0.09~~
~~20VBB~~	~~20FBB~~	~~0.09~~
~~18AVAA~~	~~18AFAA~~	~~0.06~~
~~41VAA~~	~~41FKK~~	~~0.09~~
~~33VAA~~	~~33FAA~~	~~0.05~~
~~33RAA~~	~~33FCC~~	~~0.16~~
~~33VBB~~	~~33FDD~~	~~0.04~~
~~33VCC~~	~~33FFF~~	~~0.13~~
~~33VDD~~	~~33FGG~~	~~0.13~~

~~Emission Units~~	~~Control Device ID~~	~~Total PM /PM$_{10}$ (Filterable and Condensable) Emissions Rate (lb/hr)~~
~~33FEE~~	~~33FEE~~	~~0.07; and~~

~~(2) The opacity from the baghouses shall not exceed 3%.~~

~~(b) The following emission units shall be controlled for VOC using BACT:~~

~~Six (6)~~ Propylated Starch Reactors, identified as **45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281,** 45V292, 45V293, 45V294, 45V295, **and** 45V296~~, and 45VFF~~.

VOC BACT has been determined to be the use of a low pH packed bed scrubber **(45F212)** and hydrolysis and:

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~~D.5.2 Prevention of Significant Deterioration Minor Limit [326 IAC 2-2]~~

~~Pursuant to CP 157-4195-00003, issued August 25, 1995, as amended by A 157-6170-00003, issued July 26, 1996, the particulate matter emissions are limited as indicated in the table below:~~

~~**Facility**~~	~~**Stack**~~	~~**PM/PM$_{10}$ emissions limit (lb/hr)**~~	~~**PM/PM$_{10}$ emissions limit (ton/12mo*)**~~
~~Starch Feed Bin (33V1)~~	~~236~~	~~0.29~~	~~1.26~~
~~Starch Feed Bin (33V2)~~	~~237~~	~~0.29~~	~~1.26~~
~~Low Pressure Dry Starch Reactor (33R1)~~	~~238~~	~~0.078~~	~~0.34~~
~~Catalyst Storage Bin (33V5)~~	~~239~~	~~0.034~~	~~0.15~~
~~Dry Starch Blend Bins (33V42, 33V43, 33V40, and 33V41)~~	~~244, 245, 246, 247~~	~~0.55~~	~~2.4~~
~~Dry Starch Product Screening Receiver (50F45)~~	~~262~~	~~0.07~~	~~0.31~~

~~*12. mo - Twelve consecutive month period with compliance determined at the end of each month.~~

~~Compliance with these limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33V42, 33V43, 33V40, 33V41 and 50F45.~~

D.5.2 Avoidance Limits for PSD [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(a) The amount of acid-thinned starch produced without peroxide from reactors 45V115, 45V116, and 45V222 shall be limited to fifty million (50,000,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The sulfur dioxide (SO_2) emission rate from reactors 45V115, 45V116, and 45V222 shall not exceed 43 pounds SO_2 per 100,000 pounds of acid-thinned starch, combined.

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 45V115, 45V116, and 45V222.

~~D.5.3 Sulfur Dioxide (SO_2) Emission Limitation~~

~~The amount of acid-thinned starch produced from the reactors 45V115, 45V116, and 45V222 is limited to fifty million (50,000,000) pounds per twelve (12) consecutive month period with compliance determined at the end of each month.~~

~~This voluntary limit, based on sulfur dioxide (SO_2) emissions of 43 pounds SO_2 per 100,000 pounds of acid-thinned starch, has been incorporated to limit the potential to emit SO_2 from reactors 45V115, 45V116, and 45V222 to 10.8 tons per year.~~

D.5.~~4~~**3** Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from emission units 45V250, 9V103, 33V1, 33V2, 33R1, 33V5, 33R2, 50V61, 50V62, 33V42, 33V43, 33V40, 33V41, 50F45, and 50F48, shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughput of the respective facilities is being treated as confidential.~~

The particulate emission rates from facilities 45V250 and 9V103 shall be limited as follows:

(a) The particulate emission rates from bin vents 45F25 and 45F25A shall not exceed 0.13 lb/hr, combined.

(b) The particulate emission rate from bin vent 9F103 shall not exceed 0.04 lb/hr.

The control equipment shall be in operation at all times the facilities are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.5.~~5~~**4** Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6] [326 IAC 2-2-3]

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D.5.5 Avoidance Limits for HAPs [326 IAC 2-4.1]

In order to render the requirements of 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following BACT requirements, pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6 as established in PSD/SSM No. 157-18832-00003 and PSD/SSM 157-22808-00003:

(a) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V120; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1, 16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

Compliance with these limits will render the requirements of 326 IAC 2-4.1 not applicable to emission units 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

Compliance Determination Requirements

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D.5.8 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

D.5.~~8~~**9** Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

~~(a) Within 60 days after achieving the maximum production rate, but no later than 180 days after startup, the Permittee shall perform PM and PM_{10} testing on Dextrin Fluidizer Reactor baghouse 33FCC, and one of Dextrin storage and blending bins baghouses 33FFF or 33FGG, to verify compliance with Condition D.5.1(a), utilizing methods as approved by the Commissioner.~~

~~(b) Within 60 days after achieving the maximum production rate, but no later than 180 days after startup of emission unit 45V292,~~ **In order to demonstrate compliance with Conditions D.5.1(b), D.5.4, and D.5.5,** the Permittee shall perform VOC testing ~~on~~ **of scrubber** 45F212~~, to verify compliance with Condition D.5.5(a),~~ utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition**.

~~These tests shall be repeated at least once every five years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}.Testing shall be conducted in accordance with Section C - Performance Testing.~~

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.~~9~~**10** Visible Emissions Notations

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D.5.~~10~~**11** **Scrubber Parametric** Monitoring ~~for Scrubbers~~ **[40 CFR 64]**

* * * * *

~~D.5.11 Monitoring for Baghouses~~

~~(a) The Permittee shall record the pressure drop across baghouses 45BFAA, 20FAA, 20FBB, 18AFAA, 41FKK, 33FAA, 33FCC, 33FDD, 33FEE, 33FFF and 33FGG, used in conjunction with emission units 45BVAA, 20VAA, 20VBB, 18AVAA, 41VAA, 33VAA, 33RAA, 33VBB, 33VCC, 33VDD, and 33FEE, at least once per day when the respective facilities are in operation.~~

~~(b) The Permittee shall record the pressure drop across baghouses 50F161 and 50F162, used in conjunction with emission units 50V61 and 50V62, at least once per day when the respective emission units are in operation.~~

~~(c) The Permittee shall record the pressure drop across baghouses 45F25, 45F25a, 9F103, 33F201, and 33F202, used in conjunction with facilities 45V250, 9V103, and 33R2, at least once per day when the respective facilities are in operation.~~

~~(d) If, for any one reading, the pressure drop across the baghouse is outside of the normal range of 1 and 8 inches of water or a range established during the last stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(e) The instruments used for determining the pressure shall comply with Section C - Instrument Specifications of this permit, and shall be calibrated at least once every six (6) months.~~

D.5.12 Scrubber Failure Detection

In the event that scrubber failure for the emission units being aspirated to scrubber 45F212 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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SECTION D.6 FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Avoidance Limits for PSD [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 not applicable, PM and PM_{10} emissions from emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45 shall not exceed the emissions limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Feed Bin (33V1)	236 to 355	0.29	0.29
Starch Feed Bin (33V2)	237 to 355	0.29	0.29
Low Pressure Dry Starch Reactor (33R1)	238	0.078	0.078
Catalyst Storage Bin (33V5)	239	0.034	0.034
High Pressure Dry Starch Reactor (33R2)	240	0.08	0.08
Dry Starch Product Screening Receiver (50F48), Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, 247 to 355	0.55, total	0.55, total
Dry Starch Product Screening Receiver (50F45)	262 to 355	0.07	0.07

Compliance with the above limits shall render the requirements of 326 IAC 2-2 not applicable to emission units 33V1, 33V2, 33R1, 33V5, 33R2, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, 50G2, and 50F45.

D.6.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

The particulate emission rates from facilities 33V1, 33V2, 33V5, 33R1, 33R2, 50V61, 50V62, 50F45, 50F48, 50G1, 33V42, 33V43, 33V40, 33V41, and 50G2 shall be limited as follows:

(a) The particulate emission rates from bin vents 33F1 and 33F2 shall not exceed 0.29 lb/hr, each.

(b) The particulate emission rate from bin vent 33F5 shall not exceed 0.03 lb/hr.

(c) The particulate emission rates from baghouses 33F101 and 33F102 shall not exceed 0.08 lb/hr, combined.

(d) The particulate emission rates from baghouses 33F201 and 33F202 shall not exceed 0.08 lb/hr, combined.

(e) The particulate emission rates from bin vents 50F161 and 50F162 shall not exceed 0.11 lb/hr, each.

(f) The particulate emission rates from baghouses 50F45 and 50F48 shall not exceed 0.07 lb/hr, combined.

(g) The particulate emission rate from bin vents 33F42, 33F43, 33F40, and 33F41 and baghouse 50F11 shall not exceed 0.55 lb/hr, combined.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.6.3 Particulate Control

(a) In order to comply with Conditions D.6.1 and D.6.2, baghouses 33F101, 33F102, 33F201, 33F202, 50F45, 50F48, and 50F11 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

(b) In order to comply with Conditions D.6.1 and D.6.2, bin vents 33F1, 33F2, 33F5, 50F161, 50F162, 33F42, 33F43, 33F40, and 33F41 for particulate control shall be in operation and control particulate emissions at all times when an emission unit that it controls is in operation.

D.6.4 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency

Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.5 Visible Emissions Notations

(a) Visible emission notations of the stacks' 238, 239, 240, 355, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.6.6 Broken or Failed Bag Detection – Multi-Compartment Baghouse

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.5, the Permittee shall maintain a daily record of visible emission notations of stacks 238, 239, 240, 355, and 361 controlling the Starch Reaction Operation exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

SECTION D.~~6~~**7** FACILITY OPERATION CONDITIONS

* * * * *

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~6~~**7**.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

~~(1) Product Storage Bin #AA (07VAA),~~

~~(2) Product Storage Bin #BB (07VBB),~~

~~(3) Product Storage Bin #CC (07VCC),~~

~~(4) Starch Blend Bin #1 (07VDD),~~

~~(5) Starch Blend Bin #2 (07VEE),~~

(~~6~~**1**) Product Storage Bin #46 (41V46),

(~~7~~**2**) Roll Dryer System Mill (19G401),

(~~8~~**3**) Product Transfer to Bins 14, 15, & #KK (41C30),

(~~9~~**4**) Product Transfer to Bins 17 & 18 (41C35),

(~~10~~**5**) Product Bin 14 (41V14),

(~~11~~**6**) Product Bin 15 (41V15),

(~~12~~**7**) Product Bin 17 (41V17),

(~~13~~**8**) Product Bin 18 (41V18),

(~~14~~**9**) Product Storage Bin #45 (41V45),

(~~15~~**10**) Product Storage Bin (33V44),

~~(16) Mill #3 (44GAA),~~

~~(17) Mill #4 (44GBB),~~

(~~18~~**11**) Starch Grinder/Mill #1 (40G20),

(~~19~~**12**) Starch Grinder/Mill #2 (40G21),

(~~20~~**13**) Starch Product Bin #20 (7V20),

(~~21~~**14**) Starch Product Bin #21 (7V21),

(~~22~~**15**) Starch Product Bin #22 (7V22),

(~~23~~**16**) Starch Product Bin #23 (7V23), **and**

~~(24) Spray Dryer #2 Mill (30GAA),~~

(~~25~~**17**) Product Bin #47 (41V47). ~~and~~

~~(26) Product Bin #KK (41VKK).~~

For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses ~~rated at a maximum emission rate of 0.005 gr/dscf;~~ and

(1) ~~The total~~ PM **and** PM_{10} (Filterable and Condensable) emissions from the following baghouses shall ~~be limited to~~ **not exceed**:

~~Emission Unit~~	~~Baghouse~~	~~Lbs/hr~~
~~07VAA~~	~~07FAA~~	~~0.12~~
~~07VBB~~	~~07FBB~~	~~0.12~~
~~07VCC~~	~~07FCC~~	~~0.12~~
~~07VDD~~	~~07FDD~~	~~0.12~~
~~07VEE~~	~~07FEE~~	~~0.12~~
~~41V46~~	~~41F46~~	~~0.08~~
~~19G401~~	~~19F402~~	~~0.73~~
~~41C30~~	~~41F14, 41F15, & 41FMM~~	~~0.08~~
~~41C35~~	~~41F20 & 41F21~~	~~0.08~~
~~41V14~~	~~41F16~~	~~0.01~~
~~41V15~~	~~41F17~~	~~0.01~~
~~41V17~~	~~41F22~~	~~0.01~~
~~41V18~~	~~41F23~~	~~0.01~~
~~41V45~~	~~41F45~~	~~0.08~~
~~33V44~~	~~33F44~~	~~0.08~~
~~44GAA~~	~~44FII~~	~~0.14~~
~~44GBB~~	~~44FJJ~~	~~0.14~~
~~40G20~~	~~40F28~~	~~0.14~~
~~40G21~~	~~40F29~~	~~0.14~~
~~7V20~~	~~7F20~~	~~0.09~~
~~7V21~~	~~7F21~~	~~0.09~~
~~7V22~~	~~7F22~~	~~0.09~~
~~7V23~~	~~7F33~~	~~0.09~~
~~30GAA~~	~~30FAA~~	~~0.73~~
~~41V47~~	~~41F47~~	~~0.08~~
~~41VKK~~	~~41FPP~~	~~0.01; and~~

Emission Unit	**Baghouses**	**PM Limit (lb/hr)**	**PM_{10} Limit (lb/hr)**
41V46	**41F46**	**0.08**	**0.08**
19G401	**19F402**	**0.73**	**0.73**
41C30	**41F14 & 41F15**	**0.08**	**0.08**
41C35	**41F20 & 41F21**	**0.08**	**0.08**
41V14	**41F16**	**0.01**	**0.01**
41V15	**41F17**	**0.01**	**0.01**
41V17	**41F22**	**0.01**	**0.01**
41V18	**41F23**	**0.01**	**0.01**

Emission Unit	Baghouses	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
41V45	41F45	0.08	0.08
33V44	33F44	0.08	0.08
40G20	40F28	0.14	0.14
40G21	40F29	0.14	0.14
7V20	7F20	0.09	0.09
7V21	7F21	0.09	0.09
7V22	7F22	0.09	0.09
7V23	7F33	0.09	0.09
41V47	41F47	0.08	0.08

~~(2) except for 40F28, 40F29, 44FII, 44FJJ, and 30 FAA, the opacity from the baghouse exhausts shall not exceed 3%. The opacity from the baghouses 40F28, 40F29, 44FII, 44FJJ, and 30 FAA shall not exceed 8%.~~

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(4) The opacity from the stack exhausts except for 40F28 and 40F29 shall not exceed 3%.

(5) The opacity from baghouses 40F28 and 40F29 shall not exceed 8%.

(b) The following emission units shall be controlled for PM and PM_{10} using BACT:

~~(1)~~ Spray Dryer #2 (46D200). ~~and~~

~~(2) Spray Dryer #3 (51DAA).~~

The BACT for PM, and PM_{10} is ~~an emission rate of 0.008 gr/scf;~~ **the use of a baghouse,** and:

~~(1) The total PM/PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall be limited to 6.61 lbs/hr;~~

~~(2) The total PM/PM_{10} (Filterable and Condensable) emissions from spray dryer #3 shall be limited to 2.20 lbs/hr; and~~

(1) PM emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(2) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 0.008 gr/scf.

(3) PM emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from spray dryer #2 shall not exceed 6.61 lbs/hr.

(~~3~~**5**) The opacity from the baghouse~~s~~' exhaust~~s~~ shall not exceed 8%.

(c) The following emission units shall be controlled for PM and PM_{10} using BACT:

~~(1)~~ Starch Flash Dryer #2 (40D20) ~~and~~

~~(2) Starch Flash Dryer #4 (44DAA)~~.

~~For starch flash dryers,~~ **The** BACT for PM, and PM_{10} is ~~an emission rate of 0.008 gr/acf;~~ **the use of a scrubber,** and:

~~(1) The total PM/PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall be limited to 7.54 lbs/hr;~~

~~(2) The total PM/PM_{10} (Filterable and Condensable) emissions from starch flash dryer #4 shall be limited to 7.54 lbs/hr; and~~

(1) PM emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(2) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 0.008 gr/acf.

(3) PM emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(4) PM_{10} (Filterable and Condensable) emissions from starch flash dryer #2 shall not exceed 7.54 lbs/hr.

(~~3~~**5**) The opacity from the scrubber exhaust~~s~~ shall not exceed 8%.

(d) For the following emission units, BACT for NO_x is the use of low-NO_x burners rated at 0.04 lb/MMBtu or less and shall not exceed the emission rates as given below:

	Lbs/hr
Starch Spray Dryer #2 (46D200)	~~1.8~~ **1.0**
~~Starch Spray Dryer #3 (51DAA)~~	~~0.64~~
~~Starch Flash Dryer #4 (44DAA)~~	~~1.6~~

(e) The following emission units shall be controlled for VOC using BACT:

Propylated Starch Reactors, identified as 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, and 45V296.

VOC BACT has been determined to be the use of a low pH packed bed scrubber (45F212) and hydrolysis, and:

(1) A VOC emission rate of 3.25 lb per 100,000 lb of acid-killed starch and 6.0 lb per 100,000 lbs of non-acid-killed starch for Propylene Oxide Starch Reactors (equivalent to minimum 95% overall control efficiency).

(2) The combined propylene oxide input to Starch Modification Operations 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281, 45V292, 45V293, 45V294, 45V295, 45V296, 40Y1, 40V1, 40V50, 40U2, 40V20, 40V21, 40F51, 40F52, 40F53, 40F54, 40V15, 40V16, 40U23, 43V71, 43V72, 43F71, 43F72, 43F73, 43V85, 43V86, 30V1, 30V2, 40V11, 40V12, 40V14, 46V297, 46V201, 46V213, 46V204, 45V117, 45V118, 45V119, 45V200; and Starch Drying and Handling Operations 40D1, 40D20, 43D71, 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 30D1,

16D4, 16D5, 46D200, 19D301, 19D302, and 19D303 shall not exceed 1,500 tons per twelve consecutive month period for propylated starch reactions that do not undergo the acid-kill step.

D.~~6~~**7**.2 ~~Prevention of Significant Deterioration Minor Limit~~ **Avoidance Limits for PSD** [326 IAC 2-2]

~~(a) Pursuant to CP 157-9182-00003, issued April 2, 1998, A 157-10447-00003, issued October 26, 1999, AA 157-15029-00003, issued October 24, 2001, and SSM 157-14974-00003, issued December 17, 2002, the PM emissions from emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92 are limited as indicated in the table below:~~

~~Facility~~	~~Stacks~~	~~PM/PM_{10} Limit (pounds per hour)~~	~~PM/PM_{10} Limit (tons per 12 mos.)~~
~~Starch Flash Dryer #3 (43D71)~~	~~265~~	~~7.54~~	~~33~~
~~Flash #3 Mill (40G88)~~	~~266~~	~~0.23~~	~~0.99~~
~~Starch Product Bins (7V34, 7V35, 7V91, 7V92)~~	~~268, 269, 345, 346~~	~~0.2 each~~	~~0.89 each~~

~~*12 mo. - Twelve consecutive month period with compliance determined at the end of each month.~~

~~Compliance with these limits will render the requirements of 326 IAC 2-2 not applicable to emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92.~~

~~(b) Pursuant to CP (79) 1599, issued February 28, 1986, and OP 79-10-90-0406, issued October 16, 1987, the PM emissions from emission unit 40D1 shall not exceed 1.2 lbs/hr and 5.3 tons per twelve month consecutive period with compliance determined at the end of each month. Compliance with this limit shall render the requirements of 326 IAC 2-2 not applicable to emission unit 40D1.~~

~~(c) Pursuant to A 157-6180-00003, issued on August 12, 1996, and CP 157-4569-00003, issued September 21, 1995:~~

~~(1) The PM/PM_{10} emissions from emissions unit 43V90 shall not exceed 1.2 lbs/hr. Compliance with these limits is equivalent to total PM/PM_{10} emissions of less than 15 tons per year and will render the requirements of 326 IAC 2-2 not applicable to emission unit 43V90.~~

(a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM and PM_{10} emissions from emission units 40D1, 40F7, 7V8, and 7V9 shall not exceed the emission limits listed in the table below:

Facility	**Stack**	**PM Limit (lb/hr)**
Starch Flash Dryer #1 (40D1)	**69**	**1.2**
Pneumatic Product Transfer (40F7)	**70**	**1.5**
Starch Storage Bin #8 (7V8)	**71**	**0.03**
Starch Storage Bin #9 (7V9)	**72**	**0.03**

Compliance with the above limits will render the requirements of 326 IAC 2-2 not applicable to emission units 40D1, 40F7, 7V8, and 7V9.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

(1) PM emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

(2) PM_{10} emissions from emission unit 43V90 shall not exceed 1.2 lbs/hr.

Compliance with the above limits, combined with the limited emissions from emission units 17Z03, 17F15, and 17V06 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 not applicable to emission unit 43V90.

(c) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003, the PM and PM_{10} emissions from emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92 shall not exceed the emission limits listed in the table below:

Facility	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Starch Flash Dryer #3 (43D71)	265	7.54	7.54
Flash #3 Mill (40G88)	266	0.23	0.23
Starch Product Bins (7V34, 7V35, 7V91, 7V92)	268, 269, 345, 346	0.2 each	0.2 each

Compliance with the above limits, combined with the netting projects according to CP 157-4160-00003 and A 157-6170-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 43D71, 40G88, 7V34, 7V35, 7V91, and 7V92.

(d) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-5294-00003 and Significant Source Modification 157-30564-00003, the PM_{10} emissions from emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1 shall not exceed the emission limits listed in the table below:

Emission Unit	Stack	PM_{10} Limit (lb/hr)
Roll Dryer 41F200 and Roll Dryer Mill 41G200	96 to 355	0.28
Product Bin #10 (41V10) and Product Bin #11 (41V11)	97 98	0.03
Roll Dryer 41F201 and Roll Dryer Mill 41G201	100 to 355	0.39
Bulk Bag Dump Station (41F13)	344	0.03
Spray Dryer (30D1)	82	4.45
Dryer Mill (30G1)	84	0.95

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41F8, 41F81, 41F82, and 41F6 in the Starch Packaging and Loadout Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41F200, 41G200, 41V10, 41V11, 41F201, 41G201, 41F13, 30D1, and 30G1.

(e) In order to render the requirements of 326 IAC 2-2 not applicable, the PM and PM_{10} emissions from emission units 50V111, 50V112, 50F106, and 50D101 shall not exceed the emission limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	**350 to 361**	**0.10, total**	**0.10, total**
Spray Agglomeration System (50D101)	**264 to 404**	**1.10**	**1.10**

Compliance with the above limits, combined with the limited emissions from emission units 7V91, 7V92, 41D8, and 41F13, will render the requirements of 326 IAC 2-2 not applicable to emission units 50V111, 50V112, 50F106, and 50D101.

D.~~6~~**7**.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~(a) Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from emission units 40D1, 40F7, 7V8, 7V9, 40D20, , 43D71, 40G88, 7V34, 7V35, 43V90, 7V91, 7V92, 41G200, 41V10, 41V11, 41G201, 41F13, 30D1, 30G1, 7F25, 7F26, 7V46, 7V47, 7V48, 7V49, 7V50, 25G1, 25F1, 16D4, 16D5, 50D101, and 50F106 shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughput of the respective facilities is treated as confidential.~~

~~(b) Pursuant to CP 157-5294-00003, issued September 5, 1996, AA 157-6170-00003, issued July 26, 1996, AA 157-6571-00003, issued October 3, 1996, and in order to comply with 326 IAC 6-3-2:~~

~~(1) The PM_{10} emissions from emission units 41G200, 41V10, 41V11, 41G201, 41F13, 30D1, and 30G1 are limited as indicated in the table below:~~

~~Emission Unit~~	~~Stack~~	~~PM_{10} emission limit (pounds per hour)~~	~~PM_{10} emission limit (tons per 12 mo)~~
~~Roll Dryer Mill 41G200~~	~~96 to 355~~	~~0.28~~	~~1.22~~
~~Product Bin #10 (41V10) and~~	~~97~~	~~0.03~~	~~0.14~~

~~Emission Unit~~	~~Stack~~	~~PM_{10} emission limit (pounds per hour)~~	~~PM_{10} emission limit (tons per 12 mo)~~
~~Product Bin #11 (41V11)~~	~~98~~		
~~Roll Dryer Mill 41G201~~	~~100 to 355~~	~~0.39~~	~~1.69~~
~~Bulk Bag Dump Station (41F13)~~	~~344~~	~~0.03~~	~~0.11~~
~~Spray Dryer (30D1)~~	~~82~~	~~4.45~~	~~19.49~~
~~Dryer Mill (30G1)~~	~~84~~	~~0.95~~	~~4.17~~

~~*12 mo. - Twelve consecutive month period with compliance determined at the end of each month.~~

~~(2) The opacity from facilities 41G200 (stack 355), and 41G201 (stack 355) shall not exceed three percent (3%); and~~

~~(c) Pursuant to MSM 157-11907-00003, issued May 16, 2000, and in order to ensure compliance with 326 IAC 6-3-2, the allowable PM emission rate from emission units 50D101 and 50F106 shall not exceed 1.1 and 0.1 pounds per hour, respectively.~~

The particulate emission rates from emission units 43V90, 40D1, 40F7, 25F1, 25G1, 7V8, 7V9, 43D71, 40G88 , 7V34, 7V35, 7V91, 7V92, 41F200, 41G200, 41F201, 41G201, 41V10, 41V11, 41F13, 30D1, 16D4, 16D5, 7F25, 7F26, 7V50, 7V49, 7V48, 7V47, 7V46, 50D101, 50V111, 50V112, 50F106, and 30G1 shall be limited as follows:

(a) The particulate emission rates from bin vents 43F90, 7F8, 7F9, 41F10, 41F11, and 41F13 shall not exceed 0.03 lb/hr, each.

(b) The particulate emission rates from baghouses 7F25 and 7F26 shall not exceed 0.03 lb/hr, each.

(c) The particulate emission rate from scrubber 40F3 shall not exceed 1.2 lb/hr.

(d) The particulate emission rate from baghouse 40F7 shall not exceed 0.15 lb/hr.

(e) The particulate emission rate from baghouse 25F1 shall not exceed 0.05 lb/hr.

(f) The particulate emission rates from baghouses 25F2 and 40F88 shall not exceed 0.23 lb/hr, each.

(g) The particulate emission rate from scrubber 43F80 shall not exceed 7.54 lb/hr.

(h) The particulate emission rates from bin vents 7F34, 7F35, 7F91, and 7F92 shall not exceed 0.20 lb/hr, each.

(i) The particulate emission rates from baghouses 41F200 and 41F210 shall not exceed 0.28 lb/hr, combined.

(j) The particulate emission rates from baghouses 41F201 and 41F211 shall not exceed 0.39 lb/hr, combined.

(k) The particulate emission rates from baghouses 30F2 and 30F3 shall not exceed 4.45 lb/hr, combined.

(l) The particulate emission rates from scrubbers 16F26 and 17F78 shall not exceed 3.89 lb/hr, combined.

(m) The particulate emission rates from scrubbers 16F27 and 17F79 shall not exceed 3.89 lb/hr, combined.

(n) The particulate emission rates from bin vents 7F73, 7F72, 7F71, 7F70, and 7F69 shall not exceed 0.06 lb/hr, each.

(o) The particulate emission rate from baghouse 50F102 shall not exceed 1.10 lb/hr.

(p) The particulate emission rate from baghouse 50F106 shall not exceed 0.10 lb/hr.

(q) The particulate emission rate from baghouse 30F15 shall not exceed 0.95 lb/hr.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.~~6~~**7**.4 Volatile Organic Compounds~~: Best Available Control Technology~~ **(VOC) BACT [326 IAC 2-2-3]** [326 IAC 8-1-6] ~~[326 IAC 2-2-3~~]

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Compliance Determination Requirements

D.~~6~~**7**.5 Particulate Control

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D.7.6 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

D.~~6~~**7**.~~6~~**7** Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

~~(a) Within 60 days after achieving the maximum production rate but no later than 180 days after startup of the Flash dryer #4 (44DAA), the Permittee shall perform PM and PM_{10} testing on the Starch Flash Dryer #2 (40D20) and the Starch Flash Dryer #4 (44DAA), to verify compliance with Condition D.6.1(c), utilizing methods as approved by the Commissioner.~~

(a) In order to demonstrate compliance with Condition D.7.1(a), the Permittee shall perform PM and PM_{10} testing of emission unit 19G401 and one of the emission units 40G20 and 40G21 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

~~(b) Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform PM and PM_{10} testing on one of the storage bins baghouses 07FAA, 07FBB, 07FCC, 07FDD, and 07FEE; the roll dryer mill baghouse 19F402 and spray dryer #2 mill baghouse 30FAA; and one of the starch milling baghouses 44FII, 44FJJ, 40F28, and 40F29 to verify compliance with Condition D.6.1(a), utilizing methods as approved by the Commissioner.~~

(b) In order to demonstrate compliance with Condition D.7.1(b), not later than 180 days after the issuance of this permit, T157-27029-00003, the Permittee shall perform PM and PM_{10} testing of emission unit 46D200 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(c) In order to demonstrate compliance with Condition D.7.1(c), the Permittee shall perform PM and PM_{10} testing of emission unit 40D20 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM.

(d) In order to demonstrate compliance with Conditions D.7.1(e) and D.7.4(a), the Permittee shall perform VOC testing of scrubber 45F212 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

~~These tests shall be repeated at least once every five years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C - Performance Testing.~~

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~6~~**7**.~~7~~**8** Visible Emissions Notations

~~(a) Visible emission notations of the stacks 73, 76, 77, 78, 105, 106, 107, 108, 109, 177, 265, 266, 267, 268, 269, 274, 345, 346, 355, 360, and 388 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.~~

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stacks' 69, 73, 177, 265, 360, and 361 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 70, 71, 72, 76, 77, 78, 87, 88, 89, 90, 103, 104, 105, 106, 107, 108, 109, 146, 147, 226, 248, 255, 266, 267, 268, 269, 274, 345, 346, 355, 366, 426, and 432 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(~~b~~**c**) For processes operated continuously, ~~not including operations associated with 50D101 or 50F106,~~ "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(~~c~~**d**) In the case of batch or discontinuous operations, ~~not including operations associated with 50D101 or 50F106,~~ readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

* * * * *

~~(f) For units 50D101 and 50F106, when abnormal emissions are observed, the Permittee shall complete a Pollution Control Equipment Maintenance and Inspection Log sheet.~~

D.~~6~~**7**.~~8~~**9 Scrubber Parametric** Monitoring ~~for Scrubbers~~ **[40 CFR 64]**

* * * * *

(e) The instruments used for determining the ~~flow~~ **recirculation** rate shall comply with Section C - Instrument Specifications of this **permit, shall be subject to approval by IDEM, OAQ,** and shall be calibrated at least once every six (6) months **or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used**. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~

D.~~6~~**7**.~~9~~**10 Baghouse Parametric** Monitoring ~~for Baghouses~~

~~(a) The Permittee shall record the pressure drop across baghouses 40F88, 43F90, 7F73, 7F72, 7F71, 7F70, 7F69, 19F402, 30FAA, 07FDD, 07FEE, 07FAA, 07FBB, 07FCC, 44FII, 44FJJ, 46F231 through 46F232, 51FCC, 40F28, 40F29, 7F20, 7F21, 7F22, and 7F33 used in conjunction with facilities 40G88, 43V90, 7V46, 7V47, 7V48, 7V49, 7V50, 19G401, 30GAA, 07VDD, 07VEE, 07VAA, 07VBB, 07VCC, 44GAA, 44GBB, 46D200, 51DAA, 40G20, 40G21, 7V20, 7V21, 7V22, and 7V23, at least once per day when the respective facilities are in operation.~~

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouses 30F2, 30F3, 46F231, and 46F232 used in conjunction with emission units 30D1 and 46D200 at least once per day when the respective emission units are in operation.

(b) The Permittee shall record the pressure drop across baghouses 25F2, 40F28, 40F29, 40F88, 41F200, 41F210, 41F201, 41F211, 19F400, 19F402, 30F15, and 50F102 used in conjunction with emission units 25G1, 40G20, 40G21, 40G88, 41F200, 41G200, 41F201, 41G201, 19F400, 19G401, 30G1, and 50D101 at least once per day when the respective emission units are in operation.

* * * * *

D.7.11 Scrubber Failure Detection

In the event that scrubber failure for emission units 40D20, 43D71, 40D1, 16D4, and/or 16D5 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.~~6~~**7**.~~10~~**12** Broken or Failed Bag Detection **– Multi-Compartment Baghouse**

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~6~~**7**.~~11~~**13** Record Keeping Requirements

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~~(b) The maximum production capacity of the #2 Flash Dryer System is treated as confidential and shall be kept at the emission source for the life of the facility.~~

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D.~~6~~**7**.~~12~~**14** Reporting Requirements

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SECTION D.~~7~~**8** FACILITY OPERATION CONDITIONS

* * * * *

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~7~~**8**.1 Prevention of Significant Deterioration ~~BACT Requirements~~ **(PSD)** [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3:

(a) The following emission units shall be controlled for PM and PM_{10} using BACT:

~~(1) Spray Dryer #3 Packer Baghouse (51FDD),~~

~~(2) Packer #6 Product Receivers (17FBB and 17FDD),~~

~~(3) Packer #6 House Dust Collector (17FCC),~~

~~(4) Bulk Bagger #4 Product Receiver (17FAA),~~

~~(5) #3 Bulk Starch Rail Loadout Receiver (20FAA),~~

~~(6) #3 Bulk Loadout Screening System Filter Receiver (20FBB),~~

(~~7~~**1**) Bulk Starch Rail Loadout (20F60);

~~(8) Bag Dump Station (18FBB),~~

(~~9~~**2**) Packer #3 Product Receivers and Packers (41F7, 41F181, 41Z3; 41F18, 41Z5; 41F182, 41Z1; and 41F183, and 41Z2); and

(~~10~~**3**) Packer #3 House Dust Collector (41F186).

(b) For these units, the BACT for PM and PM_{10} (Filterable and Condensable) is the use of baghouses ~~with an emission rate of 0.005 gr/dscf~~, and

(1) ~~the total~~ PM **and** PM_{10} (Filterable and Condensable) emissions **from the following baghouses shall not exceed** ~~shall be limited to as follows~~:

~~Emission Unit~~	~~Baghouse~~	~~Lb/hr~~
~~51FDD~~	~~51FDD~~	~~0.06~~
~~17FBB &17FDD~~	~~17FBB &17FDD~~	~~0.13~~
~~17FCC~~	~~17FCC~~	~~0.67~~
~~17FAA~~	~~17FAA~~	~~0.08~~
~~20FAA~~	~~20FAA~~	~~0.08~~
~~20FBB~~	~~20FBB~~	~~0.09~~
~~20F60~~	~~20F60~~	~~0.09~~
~~18FBB~~	~~18FBB~~	~~0.02~~
~~41F7~~	~~41F7~~	~~0.11~~
~~41F181~~	~~41F181~~	
~~41Z3~~	~~41F7 or 41F181~~	
~~41F18~~	~~41F18~~	~~0.11~~
~~41Z5~~	~~41F18~~	
~~41F182~~	~~41F182~~	~~0.11~~
~~41Z1~~	~~41F182~~	
~~41F183~~	~~41F183~~	~~0.11~~
~~41Z2~~	~~41F183~~	
~~41F186~~	~~41F186~~	~~0.65; and~~

Emission Unit	**Baghouse**	**PM Limit (lb/hr)**	**PM_{10} Limit (lb/hr)**
20F60	**20F60**	**0.09**	**0.09**
41F7	**41F7**	**0.11**	**0.11**
41F181	**41F181**		
41Z3	**41F7 or 41F181**		
41F18	**41F18**	**0.11**	**0.11**
41Z5	**41F18**		
41F182	**41F182**	**0.11**	**0.11**
41Z1	**41F182**		
41F183	**41F183**	**0.11**	**0.11**
41Z2	**41F183**		
41F186	**41F186**	**0.65**	**0.65**

(2) PM emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(3) PM_{10} (Filterable and Condensable) emissions from each of the baghouses shall not exceed 0.005 gr/dscf.

(~~2~~**4**) The opacity from the stack exhausts ~~except from Spray Dryer #3 Packer Baghouse (51FDD) and Bagdump Station~~ shall not exceed 3%.

~~(3) The opacity from Spray Dryer #3 Packer Baghouse (51FDD) shall not exceed 8%; and~~

~~(4) The Bag Dump Station (18FBB) shall exhaust inside the building.~~

D.8.2 Avoidance Limits for PSD [326 IAC 2-2]

(a) In order to render the requirements of 326 IAC 2-2 not applicable to CP 157-4160-00003 and Significant Source Modification 157-30564-00003, the PM emissions from emission units 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM limit (lb/hr)	PM_{10} limit (lb/hr)
Bag Packer #2 (17Z01)	177	0.17	N/A
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Bulk Bagger #2 (17Z14), Product Transfer for Bulk Bagger #2 (17F14)	254	0.08, total	0.08, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11	0.11
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0, total	1.0, total
Pneumatic Truck Loadout (20F78/20F79)	404	0.12, total	0.12, total

Compliance with the above limits, combined with the netting project according to CP 157-2993-00003, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z01, 17U59, 17U58, 17Z14, 17F14, 20F1, 20F50, 20F78, and 20F79.

(b) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from 17Z03 (controlled by baghouses 17F03 and 17F04), 17F15, and 17V06 shall not exceed 2.2 pounds per hour, combined. Compliance with this limit, combined with the limited emissions from emission unit 43V90 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 not applicable to emission units 17Z03, 17F15, and 17V06.

(c) In order to render the requirements of 326 IAC 2-2 not applicable, the PM and PM_{10} emissions from emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6 shall not exceed the emissions limits listed in the table below:

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Bulk Bagger #3 (41Z6), Bag Packer #3 House Dust Collector (41F44)	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44), Product Transfer for Bulk Bagger #1 (16F25)	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8, 41F81, and 41F82)	208 to 355	0.11	0.11
J-4 Starch Rail Loadout	183 to	0.17	0.17

Facility	Stack	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Collector (16F100)	**177**		
33 Bldg. Starch Bulk Truck Loadout (41F6)	**189**	**0.04**	**0.04**

Compliance with the above limits, combined with the netting project according to CP 157-5294-00003 and the limited emissions from emission units 41G200, 41V10, 41V11, 41G201, 41F13, 30D1, and 30G1 in the Starch Drying and Handling Operations, will render the requirements of 326 IAC 2-2 (PSD) not applicable to emission units 41Z6, 41F44, 16J44, 16F25, 41F8, 41F81, 41F82, 16F100, and 41F6.

(d) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from emission units 20F1 and 20F50 are limited to 1.0 pound per hour, combined. Compliance with this limit will render the requirements of 326 IAC 2-2 not applicable to emission units 20F1 and 20F50.

(e) In order to render the requirements of 326 IAC 2-2 not applicable to Significant Source Modification 157-30564-00003, the PM and PM_{10} emissions from emission units 17Z38, 17V04, 17F2, 17V05, 17F15, and 17V06 shall not exceed the emissions limits listed in the table below:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	**177**	**1.24, total**	**1.24, total**
Bag Packer #2 House Dust Collector (17F2), Packer #2 Reject Bag Dump (17V05)	**177**	**1.1, total**	**1.07, total**
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	**333**	**2.2, total**	**1.07, total**

Compliance with the above limits, combined with the limited PM emissions from emission units 17F2 and 17V05, shall render the requirements of 326 IAC 2-2 not applicable to emission units 17Z38, 17V04, 17F2, 17V05, 17F15, and 17V06.

D.~~7~~**8**.~~2~~**3** Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~(a) Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from emission units 17V6, 17F5, 16F5, 17F27, 17Z38, 17U58, 17Z01, 17F2, 41F7, 41Z5, 41F18, 41Z3, 41F44, 17Z03, 17F15, 16F25, 17Z14, 41F8, 41F81, 41F82, 20F61, 16F100, 41F6, 20F78, 20F79, 20F1, 20F50, and 41FLL, shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~(b) Pursuant to CP 157-4160-00003, issued April 5, 1995, and in order to ensure compliance with 326 IAC 6-3-2, the PM emissions from facilities 17Z01, 17F2, 17Z14, and Truck Loadout, are limited as indicated in the table below:~~

~~Facility~~	~~Stack~~	~~PM emission limit (lbs/hr)~~
~~Bag Packer #2 (17Z01)~~	~~177~~	~~0.17~~
~~House Dust Collector Bag Packer #2 (17F2)~~	~~177~~	~~1.1~~
~~Bulk Bagger #2 (17Z14)~~	~~254~~	~~0.08~~
~~Pneumatic Truck Loadout (Truck Loadout)~~	~~404~~	~~0.12~~

~~(c) Pursuant to CP 157-5294-00003, issued September 5, 1996, AA 157-6571-00003, issued October 3, 1996, revised through the Part 70 permit, and in order to comply with 326 IAC 6-3-2, the particulate matter emissions from facilities 41F8, 41F81, 41F82, 41F6, and 41FLL are limited as indicated in the table below:~~

~~Facility~~	~~Stack~~	~~PM_{10} emissions limit (pounds per hour)~~	~~PM_{10} emission limit (tons per 12 mo)~~
~~Product Transfer System for #3 Bulk Bagger (41F8, 41F81, and 41F82)~~	~~355~~	~~0.11~~	~~0.48~~
~~33 Bldg. Dextrin/Roll /Spray Cooked Starch Bulk Truck Loadout (41F6 and 41FLL)~~	~~189~~	~~0.04~~	~~0.18~~

~~*12 mo. - Twelve consecutive month period with compliance determined at the end of each month.~~

~~(d) Pursuant to Exemption 157-8071-00003, issued February 7, 1997, the PM emissions from 20F1 and 20F50 are each limited to 1 pound per hour to ensure compliance with 326 IAC 6-3-2.~~

~~(e) Pursuant to CP 157-4569-00003, issued September 21, 1995, and A 157-6180-00003:~~

~~(1) The PM emissions from 17Z03 (controlled by baghouses 17F15, 17F03 and 17F04) shall not exceed 2.2 pounds per hour (equivalent to less than or equal to 9.63 tons per year) to ensure compliance with 326 IAC 6-3-2; and~~

~~(2) Only one of the baghouses, 17F03 or 17F04, shall be operated at a time.~~

The particulate emission rates from emission units 17V6, 17U58, 17U59, 16F5, 17F27, 17Z38, 17V04, 17Z01, 17F2, 17V05, 41F44, 17Z03, 17F15, 17V06, 16F25, 16J44, 17F14, 17Z14, 41F8, 41F81, 41F82, 41Z6, 20F1, 20F50, 20F61, 20F78, 20F79, 16F100, and 41F6 shall be limited as follows:

(a) The particulate emission rate from baghouse 17F6 shall not exceed 0.12 lb/hr.

(b) The particulate emission rate from baghouse 17F58 shall not exceed 0.03 lb/hr.

(c) The particulate emission rates from baghouses 16F5 and 17F27 shall not exceed 0.13 lb/hr, combined.

(d) The particulate emission rate from baghouse 17F10 shall not exceed 1.59 lb/hr.

(e) The particulate emission rates from baghouses 17F01, 20F61, and 16F100 shall not exceed 0.17 lb/hr, each.

(f) The particulate emission rate from baghouse 17F2 shall not exceed 1.1 lb/hr.

(g) The particulate emission rate from baghouse 41F44 shall not exceed 0.69 lb/hr.

(h) The particulate emission rates from baghouses 17F03 and 17F04 shall not exceed 0.20 lb/hr, combined.

(i) The particulate emission rate from baghouse 17F15 shall not exceed 1.07 lb/hr.

(j) The particulate emission rate from baghouse 16F25 shall not exceed 0.13 lb/hr.

(k) The particulate emission rate from baghouse 17F14 shall not exceed 0.08 lb/hr.

(l) The particulate emission rates from baghouses 41F8, 41F81, and 41F82 shall not exceed 0.11 lb/hr, combined.

(m) The particulate emission rates from baghouses 20F1 and 20F50 shall not exceed 0.15 lb/hr, each.

(n) The particulate emission rates from baghouses 20F78 and 20F79 shall not exceed 0.12 lb/hr, combined.

(o) The particulate emission rate from baghouse 41F6 shall not exceed 0.04 lb/hr.

The control equipment shall be in operation at all times the facilities are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

Compliance Determination Requirements

D.~~7~~**8**.~~3~~**4** Particulate Control

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~~(b) Pursuant to CP 157-5294-00003, issued September 5, 1996, A 157-6571-00003, issued October 3, 1996, and in order to comply with Condition D.7.1, the particulate emissions from emission units 41F8, 41F81, 41F82, and 41F6 shall be considered in compliance that:~~

~~(1) the respective baghouses shall be operated at all times when the emission units are in operation. To facilitate compliance, opacity shall not exceed zero percent (0%);~~

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D.8.5 Broken or Failed Bag Detection – Single Compartment Baghouse

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions), or

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks, or dust traces.

D.~~7~~**8**.~~4~~**6** Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

~~(a) Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup, the Permittee shall perform PM and PM_{10} testing on one of the Packer #6 product receiver baghouses 17FBB, and17FDD; and Packer #6 house dust collector 17FCC to verify compliance with Condition D.7.1, utilizing methods as approved by the Commissioner.~~

~~(b) Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup of 41F7, 41F181, 41F18, 41F182, and 41F183,~~ **In order to demonstrate compliance with Condition D.8.1(b),** the Permittee shall perform PM and PM_{10} testing ~~on Packer #3 house dust collector~~ **of emission unit** 41F186 ~~to verify compliance with Condition D.7.1,~~ utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition. PM_{10} includes filterable and condensable PM**.

~~These tests shall be repeated at least once every five years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing.~~

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~7~~**8**.~~5~~**7** Visible Emissions Notations

~~(a) Visible emission notations of the stacks 102, 177, 355, 356, 361, and 404 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.~~

(a) Pursuant to 40 CFR 64 (CAM), visible emission notations of the stack 177 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) Visible emission notations of the stacks' 102, 189, 254, 332, 333, 334, 355, 361, and 404 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

* * * * *

D.~~7~~**8**.~~6~~**8** **Baghouse Parametric** Monitoring ~~for Baghouses~~

~~(a) The Permittee shall record the pressure drop across baghouses 17F10, 17F01, 41F44, 17F15, 51FDD, 17FBB, 17FDD, 17FCC, 17FAA, 20FAA, 20FBB, 20F60, 41F7, 41F181, 41F18, 41F182, 41F183, and 41F186 used in conjunction with facilities 17Z38, 17Z01, 41F44, 17F15, 51FDD, 17FBB, 17FDD, 17FCC, 17FAA, 20FBB, 20F60, 41F7, 41F181, 41Z3, 41F18, 41Z5, 41F182, 41Z1, 41F183, 41Z2, and 41F186 at least once per day when the respective facilities are in operation.~~

~~(b) The Permittee shall record the pressure drop across baghouses 17F6, 16F5, 17F27, 20F61 and 16F100, used in conjunction with facilities 17V6, 17F5, 17F27, 20F61, and 16F100, at least once per day when the respective facilities are in operation.~~

(a) Pursuant to 40 CFR 64 (CAM), the Permittee shall record the pressure drop across baghouse 17F10 used in conjunction with emission units 17Z38 and 17V04 at least once per day when the respective emission units are in operation.

(b) The Permittee shall record the pressure drop across baghouses 20F61 and 20F60 used in conjunction with emission units 20F61 and 20F60 at least once per day when the respective emission units are in operation.

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D.~~7~~**8**.~~7~~**9** Broken or Failed Bag Detection **– Multi-Compartment Baghouse**

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~7~~**8**.~~8~~**10** Record Keeping Requirements

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SECTION D.~~8~~**9** FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~8~~**9**.1 Prevention of Significant Deterioration [326 IAC 2-2]

Pursuant to PSD (79) 1557, issued June 21, 1984, and ~~in order to comply with the requirements of 326 IAC 2-2~~ **Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004**:

(a) The PM emissions from the coal/ash handling system (~~facilities~~ 31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 0.51 pounds per hour~~, equivalent to less than or equal to 2.24 tons per year~~.

~~This limit, in conjunction with the limited PM emissions from boiler 31B1 (Condition D.9.1), is equivalent to combined PM emissions of less than or equal to 56 tons per year; and~~

(b) The PM emissions from boiler 31B1 and the coal/ash handling system facilities (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(~~b~~**c**) The particulate matter emissions from the coal/ash handling system (facilities 31V1, 31F10, 31V3, 31V4, and 31V5) shall be controlled by a baghouse providing at least 99.9% collection efficiency.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 (PSD) for emission units 31V1, 31F10, 31V3, 31V4, and 31V5.

D.~~8~~**9**.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from emissions unit 31V10 shall be limited using one of the following equations (as applicable):~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Or depending on the process weight rate:~~

~~Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:~~

~~$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughputs of the respective facilities are treated as confidential.~~

The particulate emission rates from emission units 31V3, 31V4, 31V5, 9V32, 31F10, 31V1, and 31V10 shall be limited as follows:

(a) The particulate emission rate from bin vent 31F21 shall not exceed 0.10 lb/hr.

(b) The particulate emission rates from bin vents 31F19 and 31F20 shall not exceed 0.07 lb/hr, each.

(c) The particulate emission rate from bin vent 9F32 shall not exceed 0.03 lb/hr.

(d) The particulate emission rate from baghouse 31F22 shall not exceed 0.18 lb/hr.

(e) The particulate emission rate from bin vent 31F1 shall not exceed 0.09 lb/hr.

(f) The particulate emission rate from bin vent 31F18 shall not exceed 0.06 lb/hr.

The control equipment shall be in operation at all times the emission units are in operation in order to comply with these particulate limits.

These limits are more stringent than the 326 IAC 6-3-2 allowable particulate emission rates based on maximum process weight rate for these facilities. Therefore, compliance with these limits shall satisfy compliance with 326 IAC 6-3-2.

D.9.3 Opacity [40 CFR 60, Subpart Y]

Pursuant to 40 CFR 60.252(c), an owner or operator subject to the provisions of NSPS, Subpart Y shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Compliance Determination Requirements

D.~~8~~**9**.~~3~~**4** Particulate Control

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D.9.5 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

Not later than 180 days after the issuance of this permit, T157-27029-00003, the Permittee shall perform opacity testing on the coal processing and conveying equipment, coal storage system, and coal transfer and loading system processing coal utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~8~~**9**.~~4~~**6** Visible Emissions Notations

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~~D.8.5 Monitoring for Baghouses~~

~~(a) The Permittee shall record the pressure drop across baghouses 31F1 and 31F22, used in conjunction with facilities 31V1 and 31F10, at least once per day when the respective facilities are in operation.~~

~~(b) The Permittee shall record the pressure drop across baghouses 31F18, 31F21, 31F19, and 31F20, used in conjunction with facilities 31V10, 31V3, 31V4, and 31V5, at least once per day when the respective facilities are in operation.~~

~~(c) When, for any one reading, the pressure drop across the baghouse is outside of the normal range of 3 and 6 inches of water or a range established during the last stack test,~~

~~the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(d) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, and shall be calibrated at least once every six (6) months.~~

D.~~8~~**9**.~~6~~**7** Broken or Failed Bag Detection

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~8~~**9**.~~7~~**8** Record Keeping Requirements

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SECTION D.~~9~~**10** FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~9~~**10**.1 Prevention of Significant Deterioration: Best Available Control Technology [326 IAC 2-2-3]

Pursuant to PSD (79) 1557, issued June 21, 1984**, and Part 70 Operating Permit No. T157-6009-00003, issued June 28, 2004**:

(a) The controlled particulate matter (PM) emissions from boiler 31B1 shall not exceed 0.05 pounds per MMBtu heat input. ~~Compliance with this limit, in conjunction with the limited PM emissions from the coal/ash handling system (31V1, 31F10, 31V3, 31V4, and 31V5) (Condition D.8.1), is equivalent to total PM emissions of less than 56 tons per year;~~

(b) The PM emissions from boiler 31B1 and the coal/ash handling system emission units (31V1, 31F10, 31V3, 31V4, and 31V5) shall not exceed 56 tons per year, combined.

(~~b~~**c**) The sulfur dioxide (SO_2) emissions from boiler 31B1 shall not exceed 1.2 pounds per MMBtu heat input and 1,215 tons per 12 month consecutive period with compliance determined at the end of each month by burning low sulfur coal.

(~~c~~**d**) The nitrogen oxides (NO_x) emissions from boiler 31B1 shall not exceed 0.7 pounds per MMBtu and 782 tons per 12 month consecutive period with compliance determined at the end of each month by boiler feed method and combustion techniques.

(~~d~~**e**) The carbon monoxide (CO) emissions from boiler 31B1 shall not exceed 10.2 pounds per hour and 45 tons per 12 month consecutive period with compliance determined at the end of each month.

(~~e~~**f**) The volatile organic compounds (VOC) emissions from boiler 31B1 shall not exceed 1.1 pounds per hour and 5 tons per 12 month consecutive period with compliance determined at the end of each month.

(~~f~~**g**) Only one of the identical gas/oil-fired boilers (11B1, 11B2, or 11B3) will be operated when the coal-fired boiler, 31B1, is operating. The only exception is the period of time required

to replace the operation of boiler 31B1 with the operation of the two remaining standby gas/oil boilers. In no case will this period of time exceed eight (8) hours.

(~~g~~**h**) Boilers 11B1, 11B2, or 11B3 will combust only natural gas when fired in conjunction with the coal-fired boiler (31B1).

(~~h~~**i**) In order to ensure compliance with (a) through (e) above, the total amount of coal consumed by boiler 31B1 and the average coal heating value shall be determined on a monthly basis with compliance determined, per twelve consecutive month period, at the end of each month.

Compliance with these requirements will satisfy the requirements of 326 IAC 2-2 ~~(Prevention of Significant Deterioration)~~ **(PSD) for Boilers 11B1, 11B2, 11B3, and 31B1**.

D.~~9~~**10**.2 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-3(d)]

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D.~~9~~**10**.3 Particulate Matter (Sources of Indirect Heating) [326 IAC 6-2-4]

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D.~~9~~**10**.4 Sulfur Dioxide [326 IAC 7-1.1-2] [326 IAC 7-2-1]

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~~D.9.5 Pollution Control Project [326 IAC 2-2.5]~~

~~Pursuant to 326 IAC 2-2.5 (Pollution Control Project), the airlock speed for the GMH starch silo (09V32) shall not exceed 1.6 rpm, which is equivalent to 28.8 ft^3/hr of waste starch fed to boiler 31B1.~~

D.10.5 Opacity

The opacity from boiler 31B1 shall not exceed twenty percent (20%) for any three (3) consecutive six-minute average period.

Compliance Determination Requirements

D.~~9~~**10**.~~7~~**6** Particulate Control

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D.~~9~~**10**.~~6~~**7** Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

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D.~~9~~**10**.8 Sulfur Dioxide Emissions and Sulfur Content [326 IAC 3-7-4]

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~~Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]~~

D.~~9~~**10**.9 Sulfur Dioxide (SO_2) Emissions Monitoring [326 IAC 3-5] [326 IAC 7-2-1(g)]

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D.~~9~~**10**.10 Nitrogen Oxides (NO_x) Emissions Monitoring [326 IAC 3-5] [326 IAC 3-5-1(d)]

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D.~~9~~**10**.11 Continuous Opacity Monitoring [326 IAC 3-5]

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Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~9~~**10**.12 Opacity Readings **[40 CFR 64]**

~~Compliance with the applicable opacity limitations shall be monitored by continuously measuring and recording the opacity of emissions from the stack exhaust.~~

~~(a) Appropriate response steps shall be taken in accordance with Section C - Response to Excursions or Exceedances whenever the opacity from the boiler exceeds twenty percent (20%) for any three (3) consecutive six-minute average period. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

~~(b) The opacity shall be determined by the certified continuous opacity monitor required in Condition D.9.11.~~

Compliance with the applicable opacity limitation in Condition D.10.5 shall be monitored by continuously measuring and recording the opacity of emissions from the stack exhaust. The opacity shall be determined by the certified continuous opacity monitor required in Condition D.10.11. If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

~~D.9.13 Method 9 Opacity Readings and Visible Emissions Notations~~

~~Whenever a continuous opacity monitor (COMS) is malfunctioning, the Permittee shall follow the procedures in accordance with Section C - Maintenance of Continuous Opacity Monitoring Equipment until such time that the continuous opacity monitor is back in operation.~~

D.10.13 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment. For a boiler, the COMS shall be in operation at all times that the induced draft fan is in operation.

(b) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a COMS is malfunctioning or will be down for maintenance, or repairs for a period of twenty-four (24) hours or more, a backup COMS is not online within twenty-four (24) hours of shutdown of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor the emissions from the emission unit stack.

(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during

daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(3) Method 9 readings may be discontinued once a COMS is online.

(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5.

D.10.14 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification, which shall be submitted by the Permittee, does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment in accordance with applicable federal regulations and 326 IAC 3-5.

(c) The CEMS shall be operated at all times, except during CEMS malfunctions, reasonable periods of necessary CEMS calibration, or CEMS maintenance activities. CEMS calibration and maintenance activities shall be properly documented and shall be conducted pursuant to the standard operating procedures under 326 IAC 3-5-4(a).

(d) The Permittee shall keep records in accordance with 326 IAC 3-5-6(b) that includes the following:

(1) All documentation relating to:

(A) Design, installation, and testing of all elements of the monitoring system, and

(B) Required corrective action or compliance plan activities.

(2) All maintenance logs, calibration checks, and other required quality assurance activities,

(3) All records of corrective and preventive action,

(4) A log of plant operations, including the following:

(A) Date of facility downtime,

(B) Time of commencement and completion of each downtime, and

(C) Reason for each downtime.

(e) In accordance with 326 IAC 3-5-7(5), the Permittee shall submit reports of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately. The reports shall include the following:

(1) Date of downtime,

(2) Time of commencement,

(3) Duration of each downtime,

(4) Reasons for each downtime, and

(5) Nature of system repairs and adjustments.

(f) Except where permit conditions streamline similar applicable requirements pursuant to 326 IAC 2-7-24, nothing in this permit shall excuse the Permittee from complying with 326 IAC 3-5.

D.~~9~~**10**.~~14~~**15** SO_2 Monitor Downtime [326 IAC 2-7-6] [326 IAC 2-7-5(1)]

Whenever the SO_2 ~~continuous emission monitor~~ **CEMS** is ~~malfunctioning or will be~~ down for ~~repairs or adjustments for a period of~~ **more than twenty-**four (**2**4) hours ~~or more~~, a calibrated backup CEMS shall be brought online within **twenty-**four (**2**4) hours of shutdown of the primary CEMS, if possible. If this is not possible, a fuel analysis, pursuant to 326 IAC 3-7-2(a) or (b), shall be conducted to allow for determination of compliance with all SO_2 emission limits.

D.~~9~~**10**.~~15~~**16** Visible Emissions Notations

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D.~~9~~**10**.~~16~~**17** Broken or Failed Bag Detection

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~~D.9.17 Airlock Monitoring~~

~~In order to demonstrate compliance with Condition D.9.5, the Permittee shall continuously monitor the speed of the airlock for the GMH starch silo.~~

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~9~~**10**.18 Record Keeping Requirements

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D.~~9~~**10**.19 Reporting Requirements

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SECTION D.~~10~~**11** FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~10~~**11**.1 Prevention of Significant Deterioration [326 IAC 2-2-3]

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Compliance Determination Requirements

D.~~10~~**11**.2 Sulfur Dioxide (SO_2)

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D.~~10~~**11**.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

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Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~10~~**11**.4 Flare Pilot Flame

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D.~~10~~**11**.5 **Scrubber Parametric** Monitoring ~~for Scrubber~~ **[40 CFR 64]**

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(~~d~~**c**) The instruments used for determining the flow rate and pH shall comply with Section C - Instrument Specifications of this permit, **shall be subject to approval by IDEM, OAQ,** and shall be calibrated **or replaced** at least once every six (6) months **or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer's specifications, if used**. ~~The loss of monitoring data due to the calibration of an instrument while the equipment is in operation does not constitute a deviation from this permit.~~

D.11.6 Scrubber Failure Detection

In the event that scrubber failure for emission unit 34V10 has been observed:

The feed to the process shall be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~10~~**11**.~~6~~**7** Record Keeping Requirements

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SECTION D.~~11~~**12** FACILITY OPERATION CONDITIONS

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.12.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions from the brazing equipment, cutting torches, soldering equipment, welding equipment, structural steel and bridge fabrication activities, coal bunker and coal scale exhausts and associated dust collector vents, and vents from ash transport systems not operated at positive pressure shall not exceed a pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$ **where E = rate of emission in pounds per hour and P = process weight rate in tons per hour**

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0\ P^{0.11} - 40$$ **where E = rate of emission is pounds per hour and P = process weight rate in tons per hour**

D.~~11~~**12**.~~1~~**2** Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

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D.~~11~~**12**.~~2~~**3** Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

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~~D.11.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]~~

~~Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), particulate emissions from the insignificant brazing equipment, cutting torches, soldering equipment, welding equipment, structural steel and bridge fabrication activities, coal and coke conveying, coal bunker, ash transport systems, corn storage silos and dewatering presses shall be limited using one of the following equations (as applicable):~~

~~Those activities with a process weight rate of less than 100 pounds per hour shall be limited to 0.551 pounds per hour;~~

~~Or depending on the process weight rate:~~

~~Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:~~

$$\cancel{E = 4.10\ P^{0.67}}$$ ~~where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour~~

~~Note that the specific 326 IAC 6-3-2 limits have not been listed here as the process throughputs of the respective facilities are treated as confidential.~~

D.12.4 Avoidance Limit for VOC [326 IAC 8-4-6]

In order to render the requirements of 326 IAC 8-4-6 not applicable to the storage tank identified as Tank #3, the monthly gasoline throughput from Tank #3 shall not exceed 10,000 gallons per month. Compliance with the above limit will render the requirements of 326 IAC 8-4-6 not applicable to Tank #3.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.12.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.12.4, the Permittee shall maintain monthly records of gasoline throughput from the storage tank identified as Tank #3.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required to be maintained by this condition.

D.12.6 Reporting Requirements

A quarterly summary of the gasoline throughput to document the compliance status with Condition D.12.4 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 26, 2008. Additional information was received on June 10, 2009; July 23, 2009; August 27, 2009; February 22, 2010; February 24, 2010; May 6, 2010; May 13, 2010; June 9, 2010; June 30, 2010; July 8, 2010; August 6, 2010; February 8, 2011; April 18, 2011; April 26, 2011; and August 2, 2011.

Conclusion

The construction and operation of this stationary wet corn milling plant shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 157-30564-00003 and Part 70 Operating Permit Renewal No. T157-27029-00003.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to John Haney at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5328 or toll free at 1-800-451-6027 extension 4-5328.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore
Plant-Wide Emissions Summary
Table EC

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Plant Area	Ref.	Emission Rates (TPY)																	
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	GHGs (as CO2e)	HAPs									Total HAPs
										Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane	
Corn Receiving and Handling Operations	[1]	5.08	5.08	0.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet Milling Operations	[2]	0	0	0	35.76	0	0	118.25	0	0	1.15	0	0	0	0	0	0	0	1.15
Feed, Meal, & Germ Production Operations	[3]	45.27	45.27	18.52	19.46	26.28	54.91	15.53	52,880	0	0.29	0.17	0.12	0	0	0	0	0.79	1.37
Syrup Refining Operations	[4]	1.58	1.58	0.90	72.26	0	0	4.40	0	0	0	0	0	0	0.07	0	0	0	0.07
Starch Modification Operations	[5]	0.74	0.74	0.42	10.75	0	0	62.26	0	26.69	0	0	0.95	28.27	0	0	0	0	55.90
Starch Reaction Operations	[6]	7.37	7.37	3.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starch Drying and Handling Operations	[7]	194.25	194.25	73.24	0.39	58.95	55.04	10.76	79,055	0	0	9.58	0	0	0	0	0	1.18	10.76
Starch Packaging and Loadout Operations	[8]	38.89	33.81	14.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boiler Support Facilities	[9]	2.63	2.63	0.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utility Area	[10]	54.75	54.75	21.79	1214.46	861.55	137.97	9.03	262,585	0	0.03	0.56	0	0	52.79	6.60	0.11	2.96	63.04
Wastewater Treatment Anaerobic Digester	[11]	0.17	0.17	0.17	39.58	11.99	52.39	19.82	91	0	negl.	negl.	0	0	0	0	0	0	negl.
PLANT-WIDE TOTAL		**350.74**	**345.66**	**134.60**	**1,392.66**	**958.77**	**300.31**	**240.05**	**394,611**	**26.69**	**1.46**	**10.31**	**1.07**	**28.27**	**52.86**	**6.60**	**0.11**	**4.92**	**132.29**
Fugitive Sources	[12]	29.66	6.02	1.45	9.00	0	0	24.92	0	0	4.48	0	0	0	0	0	0	0	4.48
Plant-Wide Total with Fugitive Sources		380.41	351.68	136.05	1,401.66	958.77	300.31	264.97	394,611	26.69	5.95	10.31	1.07	28.27	52.86	6.60	0.11	4.92	136.77

Notes:
[1] Table 1 - Corn Receiving and Handling Operations Particulate Matter Control Device Emission Calculations
[2] Table 2 - Wet Milling Operations SO_2/VOC Control Device Emission Calculations
[3] Table 3A - Feed, Meal, & Germ Production Operations Stack 17 Emissions Summary
[4] Table 4A - Syrup Refining Operations Emission Summary
[5] Table 5A - Starch Modification Operations Emission Summary
[6] Table 6A - Starch Reaction Operations Particulate Matter Control Device Emission Calculations
[7] Table 7A -Starch Drying and Handling Operations: Starch Drying & Storage Emissions Summary
[8] Table 8A - Starch Packaging and Loadout Operations Particulate Matter Control Device Emission Calculations
[9] Table 9A - Boiler Support Facilities Particulate Matter Control Device Emission Calculations
[10] Table 10A - Utility Area Operations Emission Summary
[11] Table 11A - Digester Emissions Summary
[12] Table FE1 - Fugitive Emissions Summary

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Corn Receiving and Handling Operations
Table 1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [6]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [4]	TPY [5]		gr/dscf [7]	lb/hr [8]	TPY [5]
433	12V101	Railcar Corn Dump Hopper	Baghouse	08F300	80	34,500	33,733	0.004	1.16	5.08	0.004	1.16	5.08	0.06667	0.0003	0.08	0.34
	12V102	Truck Corn Dump Hopper															
	8U1	Corn Transfer Conveyor															
	12U2	Bucket Corn Elevator															
	12U4, 12U5	Corn Transfer Conveyors															
	13V1, 13V2, 13V3, 13V4, 13V5	Corn Storage Silos															
	13U6, 13U7, 13U8	Corn Transfer Conveyors															
	14U12 [9]	Corn Cleaner Fill Conveyor															
	14J5	Vibrating Corn Cleaning System															
	14C300 [9]	Corn Cleanings Pneumatic Transfer															
	14U9	Bucket Elevator from Corn Cleaner to Steeps															

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] The grain loading is based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[4] The lb/hr emission rate is based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
This lb/hr BACT limit was inaccurately calculated using actual airflow instead of standard airflow and has been revised, pursuant to Part 70 Operating Permit Renewal T157-27029-00003.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[7] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[8] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[9] The airflow for this emission unit was accounted for when the original BACT was determined.

Appendix A: Emissions Calculations
SO_2/VOC Control Device Emission Calculations
Wet Milling Operations
Table 2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Units Venting to Scrubber 15F401

Wet Milling Operations:
14V3 through 14V14, 14V15, 14V16, 14V400, 14V401, 14V402, 18F510, 15J101, 15J200, 15J201, 14V19, 18V520, 18V522, 15J15 through 15J19, 15J21, 15J22, 15J86, 15J87, 15J88, 15J89, 15J220, 15J221, 15J100, 15J99, 15V25, 15V26, 21V33, 15V21, 15J5A, 15V23, 15J53, 15J14, 15J24, 15V22, 15V24, 15V27, 15V2, 15V42, 14V17, 15V139, 1st Stage through 5th Stage Fiber Wash Screens, 15V43, 14V18, 14V96, 14V20, 15V19, 15V110 through 15V114, 15V30, 15V41, 15V38, 15V34, 15V35, 15V36, 15V37, 15V40, 15V31, 21F6, 21C6, 21F7, 21C7, 21F8, 21C8, 21F9, 21C9, 21F10, 21C10, 21F100, 21F101, 21V130, 21V159, 21V59, 21V58, 21V56, and 15V210 in addition to Insignificant Activities 14V600, 14P510, and 15V33.

Feed/Meal/Germ Production Operations:
21U403 and 21D3

Syrup Refining Operations:
18V413 and 14X20

Data Element	Data	Value		Reference/Calculation
Molecular Weights of Pollutants				
SO_2	[A]	64	lb/lb-mol	
Ethanol	[B]	46	lb/lb-mol	
Acetaldehyde	[C]	44	lb/lb-mol	
Gas Constant	[D]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature	[E]	68	°F	design value
	[F]	528	°R	[E] + 460°F
Operating Hours	[G]	8,760	hr/yr	design value
Operating Data				
Exhaust Temperature	[H]	100	°F	design value
	[I]	560	°R	[H] + 460°F
Exhaust Rate	[J]	57,931	acfm	based on test data
	[K]	54,621	scfm	[J] x [F] ÷ [I]
Removal Efficiencies				
SO_2	[L]	90.00%		based on BACT determination for SSM 157-18832-00003
Ethanol	[M]	25.00%		based on BACT determination for SSM 157-18832-00003
Acetaldehyde	[N]	0.00%		design value
Uncontrolled Emission Rates				
SO_2	[O]	150	ppm	based on BACT determination for SSM 157-18832-00003
	[P]	81.65	lb/hr	[O] x [K] x [A] x 60 min/hr ÷ ([D] x 1,000,000)
	[Q]	357.65	tpy	[P] x [G] ÷ 2000 lb/ton
Ethanol	[R]	91.11	ppm	based on total VOC BACT limit and scrubber control efficiency
	[S]	35.65	lb/hr	[R] x [K] x [B] x 60 min/hr ÷ ([D] x 1,000,000)
	[T]	156.14	tpy	[S] x [G] ÷ 2000 lb/ton
Acetaldehyde	[U]	0.70	ppm	based on test data for similar processes
	[V]	0.26	lb/hr	[U] x [K] x [C] x 60 min/hr ÷ ([D] x 1,000,000)
	[W]	1.15	tpy	[V] x [G] ÷ 2000 lb/ton
VOC	[X]	35.91	lb/hr	[S] + [V]
	[Y]	157.28	tpy	[X] x [G] ÷ 2000 lb/ton
Limited Emission Rates				
SO_2	[Z]	8.17	lb/hr	[P] x (1 - [L])
	[AA]	35.76	tpy	[Z] x [G] ÷ 2000 lb/ton
	[BB]	15.00	ppm	[Z] x [D] x 1,000,000 ÷ ([A] x [K] x 60 min/hr)
Ethanol	[CC]	26.74	lb/hr	[S] x (1 - [M])
	[DD]	117.10	tpy	[CC] x [G] ÷ 2000 lb/ton
	[EE]	68.33	ppm	[CC] x [D] x 1,000,000 ÷ ([B] x [K] x 60 min/hr)
Acetaldehyde	[FF]	0.26	lb/hr	[V] x (1 - [N])
	[GG]	1.15	tpy	[FF] x [G] ÷ 2000 lb/ton
	[HH]	0.70	ppm	[FF] x [D] x 1,000,000 ÷ ([C] x [K] x 60 min/hr)
VOC	[II]	27.00	lb/hr	[DD] + [GG]
	[JJ]	118.25	tpy	[II] x [G] ÷ 2000 lb/ton
Controlled Emission Rates				
SO_2	[KK]	0.142	lb/hr	based on 3/26/08 stack test data for outlet from Scrubber 15F401
	[LL]	0.62	tpy	[KK] x [G] ÷ 2000 lb/ton
VOC	[MM]	25.5	lb/hr	based on 3/26/08 stack test data for outlet from Scrubber 15F401
	[NN]	111.69	tpy	[MM] x [G] ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Stack 17 Emissions Summary
Feed, Meal, & Germ Production Operations
Table 3A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Particulate Matter Control Device Emissions [1]		Dryer Process Emissions [2] [4]		Gluten Meal Flash Dryer Natural Gas Combustion [3] [4] [5]		Fiber Flash Dryer Furnace Natural Gas Combustion [6]		RTO Natural Gas Combustion [7]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	9.80	42.94	0	0	0	0	0.46	2.00	0.08	0.33	10.34	45.27
PM_{10}	9.80	42.94	0	0	0	0	0.46	2.00	0.08	0.33	10.34	45.27
$PM_{2.5}$	3.70	16.19	0	0	0	0	0.46	2.00	0.08	0.33	4.23	18.52
SO_2	0	0	4.40	19.27	0	0	0.04	0.16	0.01	0.03	4.44	19.46
NO_x	0	0	0	0	1.80	7.88	3.60	15.77	0.60	2.63	6.00	26.28
VOC	0	0	3.16	13.84	0	0	0.33	1.45	0.06	0.24	3.55	15.53
CO	0	0	9.13	39.98	0	0	2.92	12.80	0.49	2.13	12.54	54.91
GHGs (as CO_2e)	0	0	0	0	3,622	15,864	7,244	31,728	1,207	5,288	12,073	52,880
HAPs												
Total POM	0	0	0	0	1.55E-06	6.81E-06	3.11E-06	1.36E-05	5.18E-07	2.27E-06	5.18E-06	2.27E-05
Acetaldehyde	0	0	0.07	0.29	0	0	0	0	0	0	0.07	0.29
Benzene	0	0	0	0	6.30E-05	2.76E-04	1.26E-04	5.52E-04	2.10E-05	9.20E-05	2.10E-04	9.20E-04
Dichlorobenzene	0	0	0	0	3.60E-05	1.58E-04	7.20E-05	3.15E-04	1.20E-05	5.26E-05	1.20E-04	5.26E-04
Formaldehyde	0	0	0.03	0.14	0	0	4.50E-03	0.02	7.50E-04	3.29E-03	0.04	0.17
Hexane	0	0	0	0	0.05	0.24	0.11	0.47	0.02	0.08	0.18	0.79
Methanol	0	0	0.03	0.12	0	0	0	0	0	0	0.03	0.12
Naphthalene	0	0	0	0	1.83E-05	8.02E-05	3.66E-05	1.60E-04	6.10E-06	2.67E-05	6.10E-05	2.67E-04
Toluene	0	0	0	0	1.02E-04	4.47E-04	2.04E-04	8.94E-04	3.40E-05	1.49E-04	3.40E-04	1.49E-03
Arsenic	0	0	0	0	6.00E-06	2.63E-05	1.20E-05	5.26E-05	2.00E-06	8.76E-06	2.00E-05	8.76E-05
Cadmium	0	0	0	0	3.30E-05	1.45E-04	6.60E-05	2.89E-04	1.10E-05	4.82E-05	1.10E-04	4.82E-04
Chromium	0	0	0	0	4.20E-05	1.84E-04	8.40E-05	3.68E-04	1.40E-05	6.13E-05	1.40E-04	6.13E-04
Cobalt	0	0	0	0	2.52E-06	1.10E-05	5.04E-06	2.21E-05	8.40E-07	3.68E-06	8.40E-06	3.68E-05
Manganese	0	0	0	0	1.14E-05	4.99E-05	2.28E-05	9.99E-05	3.80E-06	1.66E-05	3.80E-05	1.66E-04
Mercury	0	0	0	0	7.80E-06	3.42E-05	1.56E-05	6.83E-05	2.60E-06	1.14E-05	2.60E-05	1.14E-04
Nickel	0	0	0	0	6.30E-05	2.76E-04	1.26E-04	5.52E-04	2.10E-05	9.20E-05	2.10E-04	9.20E-04
TOTAL HAPs	**0.00**	**0.00**	**0.13**	**0.56**	**0.05**	**0.24**	**0.11**	**0.50**	**0.02**	**0.08**	**0.31**	**1.37**

Notes:
[1] Table 3B1 -- Particulate Matter Control Device Emissions
[2] Table 3C -- Co-Product Dryers Controlled Process Emissions
[3] Table 3H -- Gluten Meal Dryer Direct-Fired Furnace (48D101) Natural Gas Combustion Emissions
[4] PM, PM_{10}, and $PM_{2.5}$ have been included with the Particulate Matter Control Device Emissions
[5] SO_2, VOC, CO, and formaldehyde have been included with the Dryer Process Emissions
[6] Table 3I -- Fiber Flash Furnace (21B501) Natural Gas Combustion Emissions
[7] Table 3J -- RTO Gas Combustion Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Feed, Meal, & Germ Production Operations
Table 3B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
3	12U11	Rail Loadout Conveyor	Baghouse	12F40	80	6,000	5,867	0.0101	0.51	2.23	0.0101	0.51	2.23	0.37705	0.0038	0.19	0.84
17	21D501	Fiber Flash Dryer [10]	Scrubber/ RTO/ RTO	21F13/ 48F201/ 48F202	322	[A]	27,781	0.031	7.38	32.32	0.031	7.38	32.32	0.37705	0.0117	2.78	12.19
	21D301	RST Feed Dryer [10]															
	48D101	Gluten Flash Dryer [10]															
	21D401	RST Germ Dryer [10]															
	21F304	Corn Cleanings Receiver [10] [11]	Scrubber/ RTO/ RTO	21F311/ 48F201/ 48F202													
	21D8	Feed Cooler [10]															
	21V125	Feed Loadout Hopper [10] [11]															
	21B501	Fiber Flash Dryer Furnace [10]	None	---													
110	8V121	Feed Storage Bin [10]	Bin Vent	8F1	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
111	8V122	Feed Storage Bin	Bin Vent	8F2	90	2,000	1,920	0.0049	0.08	0.35	0.0049	0.08	0.35	0.37705	0.0018	0.03	0.13
112	8V123	Feed Storage Bin [10]	Bin Vent	8F3	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
113	8V124	Feed Storage Bin [10]	Bin Vent	8F4	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
114	8V62	Meal Storage Bin	Bin Vent	8F62	90	2,000	1,920	0.0049	0.08	0.35	0.0049	0.08	0.35	0.37705	0.0018	0.03	0.13
	8U39, 8U41	Co-Product Loadout Conveyors															
115	8V63	Meal Storage Bin [10]	Bin Vent	8F63	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
116	8V53	Germ Storage Bin [10]	Bin Vent	8F53	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
117	8V54	Germ Storage Bin [10]	Bin Vent	8F54	90	2,000	1,920	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0018	0.03	0.13
125	AC 23, AC 24	Air Conveying Bins to Loadout	Baghouse	12F39	80	2,500	2,444	0.0100	0.21	0.92	0.0100	0.21	0.92	0.37705	0.0038	0.08	0.35
145	AC8	48D101 Dryer Air Conv. Line to Feed Mill	Baghouse	21F36	80	10,000	9,778	0.0103	0.86	3.77	0.0103	0.86	3.77	0.37705	0.0039	0.32	1.42
444	21G351	Feed Mill [10]	Scrubber	21F312	130	3,000	2,685	0.0089	0.204	0.89	0.0089	0.204	0.89	0.37705	0.0033	0.08	0.34
	21G352	Feed Mill [10]															
	21U314	Feed Milling Loadout Conveyor [10]															
	TOTAL								**9.80**	**42.94**		**9.80**	**42.94**			**3.70**	**16.19**

RST Germ Dryer Discharge Conveyor (21U403) and Rotary Airlock Valves (21D3) are vented to Scrubber 15F401 in the Wet Milling Operations.

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rate for purposes of compliance with 326 IAC 6-3-2 (see Table 3B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The grain loading as well as the PM and PM_{10} lb/hr emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[11] The airflow for this emission unit was accounted for when the original BACT was determined.

[A] Total airflow to Stack 17 consists of the exhaust from the Feed Dryer RTO's, the Fiber Dryer Furnace, and the Wet Mill Scrubber (15F401).
Airflow from the Feed Dryer RTO's and Fiber Furnace is 85,196 acfm @ 322 °F.
Airflow from the Wet Mill Scrubber is 60,000 acfm @ 100 °F. There are no PM_{10} emissions from the wet mill scrubber, only SC_2 and VOC.
Total combined airflow to Stack 17 is set at 147,000 acfm @ 232 °F.
PM_{10} mass emissions are based on the combined emission rate of the the RTO's and Fiber Furnace at 0.015 gr/scf and 57,506 scfm.
The permit limit is expressed in gr/dscf.
The humidity of the exhaust is 0.5169 cu. ft. H_20/cu. ft. wet air, resulting in a limit of 0.031 gr/dscf (27,781 dscfm).

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Feed, Meal, & Germ Production Operations
Table 3B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
3	12U11	Rail Loadout Conveyor	Baghouse	12F40	0.51	2.23	89	Yes
111	8V122	Feed Storage Bin	Bin Vent	8F2	0.08	0.35	6	Yes
114	8V62	Meal Storage Bin	Bin Vent	8F62	0.08	0.35	6	Yes
	8U39, 8U41	Co-Product Loadout Conveyors						
125	AC 23, AC 24	Air Conveying Bins to Loadout	Baghouse	12F39	0.21	0.92	24	Yes
145	AC8	48D101 Dryer Air Conv. Line to Feed Mill	Baghouse	21F36	0.86	3.77	194	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Co-Product Dryers Limited/Controlled Process Emissions Summary
Feed, Meal, & Germ Production Operations
Table 3C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Fiber Flash Dryer Process Emissions [1]		RST Feed Dryer Process Emissions [2]		RST Germ Dryer Process Emissions [3]		Gluten Meal Flash Dryer Process Emissions [4]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy [5]
PM	Included in control device emission calculations --- see Table 3B									
PM_{10}	Included in control device emission calculations --- see Table 3B									
$PM_{2.5}$	Included in control device emission calculations --- see Table 3B									
SO_2	based on BACT determination for SSM 157-22808-00003								4.40	19.27
CO	4.94	21.64	3.28	14.37	0	0	0.91	3.97	9.13	39.98
VOC	based on BACT determination for SSM 157-22808-00003								3.16	13.84
HAPs										
Acetaldehyde	0.03	0.11	0.02	0.08	0.00	0.01	0.02	0.10	0.07	0.29
Formaldehyde	0.02	0.08	0.01	0.06	0	0	0.00	0.01	0.03	0.14
Methanol	0	0	0	0	0	0	0.03	0.12	0.03	0.12
TOTAL HAPs	0.04	0.19	0.03	0.13	0.00	0.01	0.05	0.23	0.13	0.56

Notes:
[1] Table 3D -- Fiber Flash Dryer (21D501) Process Emissions
[2] Table 3E -- RST Feed Dryer (21D301) Process Emissions
[3] Table 3F -- RST Germ Dryer (21D401) Process Emissions
[4] Table 3G -- Gluten Meal Flash Dryer (48D101) Process Emissions
[5] Total (tpy) = Total (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Fiber Flash Dryer (21D501) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	300	°F	design value
		[L]	760	°R	[H] + 460°F
	Exhaust Rate	[M]	20,349	acfm	based on test data
		[N]	14,137	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.03287	gr/dscf	based on test data for similar processes
		[P]	3.98	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	17.45	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	122.40	ppm	based on test data for similar processes
		[S]	17.25	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	75.54	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	80.16	ppm	based on test data for similar processes
		[V]	4.94	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	21.64	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	53.85	ppm	based on test data for similar processes
		[Y]	5.45	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	23.89	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	5.2	ppm	based on test data for similar processes
		[BB]	0.50	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	2.21	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	5.6	ppm	based on test data for similar processes
		[EE]	0.37	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	1.62	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	6.33	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	27.71	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.96	lb/hr	[P] x (1 - [LL])
		[TT]	4.19	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	1.72	lb/hr	[S] x (1 - [MM])
		[VV]	7.55	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	4.94	lb/hr	[V] x (1 - [NN])
		[XX]	21.64	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	4.36	lb/hr	[Y] x (1 - [OO])
		[ZZ]	19.11	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.50	lb/hr	[BB] x (1 - [PP])
		[BBB]	2.21	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.37	lb/hr	[EE] x (1 - [QQ])
		[DDD]	1.62	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	5.24	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	22.93	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.76	lb/hr	[SS] x (1 - [III])
		[QQQ]	3.35	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	1.72	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	7.55	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	4.94	lb/hr	[WW] x (1 - [KKK])
		[UUU]	21.64	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.22	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.96	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.03	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.11	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.02	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.08	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.26	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	1.15	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
RST Feed Dryer (21D301) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	13,096	acfm	based on test data
		[N]	9,878	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.03287	gr/dscf	based on test data for similar processes
		[P]	2.78	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	12.19	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	122.40	ppm	based on test data for similar processes
		[S]	12.05	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	52.78	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	76.15	ppm	based on test data for similar processes
		[V]	3.28	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	14.37	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	53.84	ppm	based on test data for similar processes
		[Y]	3.81	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	16.69	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	5.2	ppm	based on test data for similar processes
		[BB]	0.35	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	1.54	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	5.6	ppm	based on test data for similar processes
		[EE]	0.26	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	1.13	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	4.42	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	19.36	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.67	lb/hr	[P] x (1 - [LL])
		[TT]	2.93	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	1.21	lb/hr	[S] x (1 - [MM])
		[VV]	5.28	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	3.28	lb/hr	[V] x (1 - [NN])
		[XX]	14.37	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	3.05	lb/hr	[Y] x (1 - [OO])
		[ZZ]	13.35	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.35	lb/hr	[BB] x (1 - [PP])
		[BBB]	1.54	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.26	lb/hr	[EE] x (1 - [QQ])
		[DDD]	1.13	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	3.66	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	16.02	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.53	lb/hr	[SS] x (1 - [III])
		[QQQ]	2.34	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	1.21	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	5.28	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	3.28	lb/hr	[WW] x (1 - [KKK])
		[UUU]	14.37	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.15	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.67	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.02	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.08	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.01	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.06	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.18	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.80	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
RST Germ Dryer (21D401) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	12,057	acfm	based on test data
		[N]	9,094	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.05	gr/dscf	based on test data for similar processes
		[P]	3.90	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	17.07	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	54.55	ppm	based on test data for similar processes
		[S]	4.94	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	21.66	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	0.00	ppm	based on test data for similar processes
		[V]	0.00	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	0.00	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	7.06	ppm	based on test data for similar processes
		[Y]	0.46	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	2.01	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	0.44	ppm	based on test data for similar processes
		[BB]	0.03	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	0.12	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	0.0	ppm	based on test data for similar processes
		[EE]	0.00	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	0.00	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	0.0	ppm	based on test data for similar processes
		[HH]	0.00	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	0.00	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	0.49	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	2.13	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	0.94	lb/hr	[P] x (1 - [LL])
		[TT]	4.10	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	0.49	lb/hr	[S] x (1 - [MM])
		[VV]	2.17	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	0.00	lb/hr	[V] x (1 - [NN])
		[XX]	0.00	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	0.37	lb/hr	[Y] x (1 - [OO])
		[ZZ]	1.61	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.03	lb/hr	[BB] x (1 - [PP])
		[BBB]	0.12	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.00	lb/hr	[EE] x (1 - [QQ])
		[DDD]	0.00	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.00	lb/hr	[HH] x (1 - [RR])
		[FFF]	0.00	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	0.40	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	1.73	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	0.75	lb/hr	[SS] x (1 - [III])
		[QQQ]	3.28	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	0.49	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	2.17	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	0.00	lb/hr	[WW] x (1 - [KKK])
		[UUU]	0.00	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.02	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.08	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.00	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.01	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.00	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.00	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.00	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.00	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.02	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.09	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
Gluten Meal Flash Dryer (48D101) Process Emissions
Feed, Meal, & Germ Production Operations
Table 3G

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Molecular Weights of Pollutants					
	SO_2	[A]	64	lb/lb-mol	
	CO	[B]	28	lb/lb-mol	
	Ethanol	[C]	46	lb/lb-mol	
	Acetaldehyde	[D]	44	lb/lb-mol	
	Formaldehyde	[E]	30	lb/lb-mol	
	Methanol	[F]	32	lb/lb-mol	
Gas Constant		[G]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[H]	68	°F	design value
		[I]	528	°R	[E] + 460°F
Operating Hours		[J]	8,760	hr/yr	design value
Dryer Operating Data					
	Exhaust Temperature	[K]	240	°F	design value
		[L]	700	°R	[H] + 460°F
	Exhaust Rate	[M]	19,339	acfm	based on test data
		[N]	14,587	scfm	[M] x [I] ÷ [L]
Uncontrolled Emission Rates					
	PM_{10}	[O]	0.15	gr/dscf	based on test data for similar processes
		[P]	18.75	lb/hr	[O] x [N] x 60 min/hr ÷ 7000 gr/lb
		[Q]	82.15	tpy	[P] x [J] ÷ 2000 lb/ton
	SO_2	[R]	63.70	ppm	based on test data for similar processes
		[S]	9.26	lb/hr	[R] x [N] x [A] x 60 min/hr ÷ ([G] x 1,000,000)
		[T]	40.56	tpy	[S] x [J] ÷ 2000 lb/ton
	CO	[U]	14.25	ppm	based on test data for similar processes
		[V]	0.91	lb/hr	[U] x [N] x [B] x 60 min/hr ÷ ([G] x 1,000,000)
		[W]	3.97	tpy	[V] x [J] ÷ 2000 lb/ton
	Ethanol	[X]	25.81	ppm	based on test data for similar processes
		[Y]	2.70	lb/hr	[X] x [N] x [C] x 60 min/hr ÷ ([G] x 1,000,000)
		[Z]	11.81	tpy	[Y] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AA]	4.48	ppm	based on test data for similar processes
		[BB]	0.45	lb/hr	[AA] x [N] x [D] x 60 min/hr ÷ ([G] x 1,000,000)
		[CC]	1.96	tpy	[BB] x [J] ÷ 2000 lb/ton
	Formaldehyde	[DD]	0.4	ppm	based on test data for similar processes
		[EE]	0.03	lb/hr	[DD] x [N] x [E] x 60 min/hr ÷ ([G] x 1,000,000)
		[FF]	0.12	tpy	[EE] x [J] ÷ 2000 lb/ton
	Methanol	[GG]	9.5	ppm	based on test data for similar processes
		[HH]	0.69	lb/hr	[GG] x [N] x [F] x 60 min/hr ÷ ([G] x 1,000,000)
		[II]	3.02	tpy	[HH] x [J] ÷ 2000 lb/ton
	VOC	[JJ]	3.86	lb/hr	[Y] + [BB] + [EE] + [HH]
		[KK]	16.92	tpy	[Z] + [CC] + [FF] + [II]
Scrubber Control Efficiency					
	PM_{10}	[LL]	76%		design value
	SO_2	[MM]	90%		design value
	CO	[NN]	0%		design value
	Ethanol	[OO]	20%		design value
	Acetaldehyde	[PP]	0%		design value
	Formaldehyde	[QQ]	0%		design value
	Methanol	[RR]	20%		design value
Scrubber Controlled Emission Rates					
	PM_{10}	[SS]	4.50	lb/hr	[P] x (1 - [LL])
		[TT]	19.72	tpy	[SS] x [J] ÷ 2000 lb/ton
	SO_2	[UU]	0.93	lb/hr	[S] x (1 - [MM])
		[VV]	4.06	tpy	[UU] x [J] ÷ 2000 lb/ton
	CO	[WW]	0.91	lb/hr	[V] x (1 - [NN])
		[XX]	3.97	tpy	[WW] x [J] ÷ 2000 lb/ton
	Ethanol	[YY]	2.16	lb/hr	[Y] x (1 - [OO])
		[ZZ]	9.45	tpy	[YY] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[AAA]	0.45	lb/hr	[BB] x (1 - [PP])
		[BBB]	1.96	tpy	[AAA] x [J] ÷ 2000 lb/ton
	Formaldehyde	[CCC]	0.03	lb/hr	[EE] x (1 - [QQ])
		[DDD]	0.12	tpy	[CCC] x [J] ÷ 2000 lb/ton
	Methanol	[EEE]	0.55	lb/hr	[HH] x (1 - [RR])
		[FFF]	2.42	tpy	[EEE] x [J] ÷ 2000 lb/ton
	VOC	[GGG]	3.19	lb/hr	[YY] + [AAA] + [CCC] + [EEE]
		[HHH]	13.95	tpy	[ZZ] + [BBB] + [DDD] + [FFF]
RTO Control Efficiency					
	PM_{10}	[III]	20%		design value
	SO_2	[JJJ]	0%		design value
	CO	[KKK]	0%		design value
	Ethanol	[LLL]	95%		design value
	Acetaldehyde	[MMM]	95%		design value
	Formaldehyde	[NNN]	95%		design value
	Methanol	[OOO]	95%		design value
RTO Controlled Emission Rates					
	PM_{10}	[PPP]	3.60	lb/hr	[SS] x (1 - [III])
		[QQQ]	15.77	tpy	[PPP] x [J] ÷ 2000 lb/ton
	SO_2	[RRR]	0.93	lb/hr	[UU] x (1 - [JJJ])
		[SSS]	4.06	tpy	[RRR] x [J] ÷ 2000 lb/ton
	CO	[TTT]	0.91	lb/hr	[WW] x (1 - [KKK])
		[UUU]	3.97	tpy	[TTT] x [J] ÷ 2000 lb/ton
	Ethanol	[VVV]	0.11	lb/hr	[YY] x (1 - [LLL])
		[WWW]	0.47	tpy	[VVV] x [J] ÷ 2000 lb/ton
	Acetaldehyde	[XXX]	0.02	lb/hr	[AAA] x (1 - [MMM])
		[YYY]	0.10	tpy	[XXX] x [J] ÷ 2000 lb/ton
	Formaldehyde	[ZZZ]	0.00	lb/hr	[CCC] x (1 - [NNN])
		[AAAA]	0.01	tpy	[ZZZ] x [J] ÷ 2000 lb/ton
	Methanol	[BBBB]	0.03	lb/hr	[EEE] x (1 - [OOO])
		[CCCC]	0.12	tpy	[BBBB] x [J] ÷ 2000 lb/ton
	VOC	[DDDD]	0.16	lb/hr	[VVV] + [XXX] + [ZZZ] + [BBBB]
		[EEEE]	0.70	tpy	[WWW] + [YYY] + [AAAA] + [CCCC]

Appendix A: Emissions Calculations
Gluten Meal Dryer Direct-Fired Furnace (48D101) Natural Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3H

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	30
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.030

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	0.06	lb/MMBtu [5]	1.80	7.88
CO	Included in process emission calculations --- see Table 3C			
PM	Included in control device emission calculations --- see Table 3B			
SO_2	Included in process emission calculations --- see Table 3C			
VOC	Included in process emission calculations --- see Table 3C			
CO_2	120,000	lb/MMscf [6]	3,600	15,768
CH_4	2.3	lb/MMscf [6]	0.07	0.30
N_2O	2.2	lb/MMscf [6]	0.07	0.29
GHGs [7]			3,600	15,769
CO_2e [8]			3,622	15,864
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [9]	7.2E-07	3.2E-06
Fluoranthene	3.0E-06	lb/MMscf [9]	9.0E-08	3.9E-07
Fluorene	2.8E-06	lb/MMscf [9]	8.4E-08	3.7E-07
Phenanathrene	1.7E-05	lb/MMscf [9]	5.1E-07	2.2E-06
Pyrene	5.0E-06	lb/MMscf [9]	1.5E-07	6.6E-07
TOTAL POM			1.6E-06	6.8E-06
Benzene	2.1E-03	lb/MMscf [9]	6.3E-05	2.8E-04
Dichlorobenzene	1.2E-03	lb/MMscf [9]	3.6E-05	1.6E-04
Formaldehyde	Included in process emission calculations --- see Table 3C			
Hexane	1.8E+00	lb/MMscf [9]	5.4E-02	2.4E-01
Naphthalene	6.1E-04	lb/MMscf [9]	1.8E-05	8.0E-05
Toluene	3.4E-03	lb/MMscf [9]	1.0E-04	4.5E-04
Arsenic	2.0E-04	lb/MMscf [10]	6.0E-06	2.6E-05
Cadmium	1.1E-03	lb/MMscf [10]	3.3E-05	1.4E-04
Chromium	1.4E-03	lb/MMscf [10]	4.2E-05	1.8E-04
Cobalt	8.4E-05	lb/MMscf [10]	2.5E-06	1.1E-05
Manganese	3.8E-04	lb/MMscf [10]	1.1E-05	5.0E-05
Mercury	2.6E-04	lb/MMscf [10]	7.8E-06	3.4E-05
Nickel	2.1E-03	lb/MMscf [10]	6.3E-05	2.8E-04
TOTAL HAPs			0.05	0.24

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr)÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf)÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr)÷ 2000 lb/ton
[5] Based on BACT determination
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[8] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[9] AP-42, Table 1.4-3, only detectable values used
[10] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Fiber Flash Furnace (21B501) Natural Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3I

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Exhaust Rate (scfm)	13402
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	60
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.060

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.06	lb/MMBtu [5]	3.60	15.77
CO			50	ppm [6]	2.92	12.80
PM			7.6	lb/MMscf [7]	0.46	2.00
SO_2			0.6	lb/MMscf [7]	0.04	0.16
VOC			5.5	lb/MMscf [7]	0.33	1.45
CO_2			120,000	lb/MMscf [7]	7,200	31,536
CH_4			2.3	lb/MMscf [7]	0.14	0.60
N_2O			2.2	lb/MMscf [7]	0.13	0.58
GHGs [8]					7,200	31,537
CO_2e [9]					7,244	31,728
HAPs						
	POM					
		2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	1.4E-06	6.3E-06
		Fluoranthene	3.0E-06	lb/MMscf [10]	1.8E-07	7.9E-07
		Fluorene	2.8E-06	lb/MMscf [10]	1.7E-07	7.4E-07
		Phenanathrene	1.7E-05	lb/MMscf [10]	1.0E-06	4.5E-06
		Pyrene	5.0E-06	lb/MMscf [10]	3.0E-07	1.3E-06
		TOTAL POM			3.1E-06	1.4E-05
	Benzene		2.1E-03	lb/MMscf [10]	1.3E-04	5.5E-04
	Dichlorobenzene		1.2E-03	lb/MMscf [10]	7.2E-05	3.2E-04
	Formaldehyde		7.5E-02	lb/MMscf [10]	4.5E-03	2.0E-02
	Hexane		1.8E+00	lb/MMscf [10]	1.1E-01	4.7E-01
	Naphthalene		6.1E-04	lb/MMscf [10]	3.7E-05	1.6E-04
	Toluene		3.4E-03	lb/MMscf [10]	2.0E-04	8.9E-04
	Arsenic		2.0E-04	lb/MMscf [11]	1.2E-05	5.3E-05
	Cadmium		1.1E-03	lb/MMscf [11]	6.6E-05	2.9E-04
	Chromium		1.4E-03	lb/MMscf [11]	8.4E-05	3.7E-04
	Cobalt		8.4E-05	lb/MMscf [11]	5.0E-06	2.2E-05
	Manganese		3.8E-04	lb/MMscf [11]	2.3E-05	1.0E-04
	Mercury		2.6E-04	lb/MMscf [11]	1.6E-05	6.8E-05
	Nickel		2.1E-03	lb/MMscf [11]	1.3E-04	5.5E-04
TOTAL HAPs					0.11	0.50

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (ppm) x Exhaust Rate (scfm) x 28 lb/lb-mol x 60 min/hr ÷ (385.3 scf/lb-mol x 1000000)
c) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) / 2000 lb/ton
[5] Based on BACT determination
[6] Based on 50 ppm in combustion gases from gas combustion in RTO
[7] AP-42, Table 1.4-2, N_2O uncontrolled
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
RTO Gas Combustion Emissions
Feed, Meal, & Germ Production Operations
Table 3J

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Exhaust Rate (scfm)	2234
Fiber Flash Furnace Heat Input (MMBtu/hr) [1] (2 burners @ 5 MMBtu/hr each)	10
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.010

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.06	lb/MMBtu [5]	0.60	2.63
CO			50	ppm [6]	0.49	2.13
PM			7.6	lb/MMscf [7]	0.08	0.33
SO_2			0.6	lb/MMscf [7]	0.01	0.03
VOC			5.5	lb/MMscf [7]	0.06	0.24
CO_2			120,000	lb/MMscf [7]	1,200	5,256
CH_4			2.3	lb/MMscf [7]	0.02	0.10
N_2O			2.2	lb/MMscf [7]	0.02	0.10
GHGs [8]					1,200	5,256
CO_2e [9]					1,207	5,288
HAPs						
	POM					
		2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	2.4E-07	1.1E-06
		Fluoranthene	3.0E-06	lb/MMscf [10]	3.0E-08	1.3E-07
		Fluorene	2.8E-06	lb/MMscf [10]	2.8E-08	1.2E-07
		Phenanathrene	1.7E-05	lb/MMscf [10]	1.7E-07	7.4E-07
		Pyrene	5.0E-06	lb/MMscf [10]	5.0E-08	2.2E-07
		TOTAL POM			5.2E-07	2.3E-06
	Benzene		2.1E-03	lb/MMscf [10]	2.1E-05	9.2E-05
	Dichlorobenzene		1.2E-03	lb/MMscf [10]	1.2E-05	5.3E-05
	Formaldehyde		7.5E-02	lb/MMscf [10]	7.5E-04	3.3E-03
	Hexane		1.8E+00	lb/MMscf [10]	1.8E-02	7.9E-02
	Naphthalene		6.1E-04	lb/MMscf [10]	6.1E-06	2.7E-05
	Toluene		3.4E-03	lb/MMscf [10]	3.4E-05	1.5E-04
	Arsenic		2.0E-04	lb/MMscf [11]	2.0E-06	8.8E-06
	Cadmium		1.1E-03	lb/MMscf [11]	1.1E-05	4.8E-05
	Chromium		1.4E-03	lb/MMscf [11]	1.4E-05	6.1E-05
	Cobalt		8.4E-05	lb/MMscf [11]	8.4E-07	3.7E-06
	Manganese		3.8E-04	lb/MMscf [11]	3.8E-06	1.7E-05
	Mercury		2.6E-04	lb/MMscf [11]	2.6E-06	1.1E-05
	Nickel		2.1E-03	lb/MMscf [11]	2.1E-05	9.2E-05
TOTAL HAPs					0.02	0.08

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (ppm) x Exhaust Rate (scfm) x 28 lb/lb-mol x 60 min/hr÷ (385.3 scf/lb-mol x 1000000)
c) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) / 2000 lb/ton
[5] Based on BACT determination
[6] Based on CO concentration in combustion gases from gas combustion in RTO
[7] AP-42, Table 1.4-2, N_2O uncontrolled
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Syrup Refining Operations Emission Summary
Syrup Refining Operations
Table 4A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Particulate Matter Control Device Emissions [1]		SO_2/VOC Control Device Emissions [2]		HCl Control Device Emissions [3]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	0.36	1.58	0	0	0	0	0.36	1.58
PM_{10}	0.36	1.58	0	0	0	0	0.36	1.58
$PM_{2.5}$	0.21	0.90	0	0	0	0	0.21	0.90
SO_2	0	0	16.50	72.26	0	0	16.50	72.26
VOC	0	0	1.00	4.40	0	0	1.00	4.40
HAPs								
HCl	0	0	0	0	0.02	0.07	0.02	0.07

Notes:
[1] Table 4B1 -- Particulate Matter Control Device Emissions
[2] Table 4C --SO_2/VOC Control Device Emissions
[3] Table 4D -- HCl Control Device Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Syrup Refining Operations
Table 4B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [7]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]		gr/dscf [8]	lb/hr [9]	TPY [5]
123	9V31	Filteraid Storage Silo	Bin Vent	9F31	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
124	9V30	Powdered Carbon Storage Silo	Baghouse	9F30	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
129	09C27 & 18C18	Filteraid Conveying System to Precoat Makeup Tank	Baghouse	18F118	80	350	342	0.0102	0.03	0.13	0.0102	0.03	0.13	0.56962	0.0058	0.02	0.07
149	9V144	Soda Ash Storage Tank	Eductor	9E1	90	1,550	1,488	0.0212	0.27	1.18	0.0212	0.27	1.18	0.56962	0.0121	0.15	0.67
	TOTAL								**0.36**	**1.58**		**0.36**	**1.58**			**0.21**	**0.90**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68)÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ (60 min/hr x Design Flow (dscfm))
[4] This is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 4B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rate (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Syrup Refining Operations
Table 4B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
123	9V31	Filteraid Storage Silo	Bin Vent	9F31	0.03	0.13	1	Yes
124	9V30	Powdered Carbon Storage Silo	Baghouse	9F30	0.03	0.13	1	Yes
129	09C27 & 18C18	Filteraid Conveying System to Precoat Makeup Tank	Baghouse	18F118	0.03	0.13	1	Yes
149	9V144	Soda Ash Storage Tank	Eductor	9E1	0.27	1.18	34	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
SO_2/VOC Control Device Emission Calculations
Syrup Refining Operations
Table 4C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		SO_2 Emission Rates			VOC Emission Rates (as Ethanol)		
						dacfm [1]	dscfm [2]	ppm [1]	lb/hr [3]	TPY [4]	ppm [1]	lb/hr [3]	TPY [4]
320	18V312	Acid Reject Flash Chamber [5]	None	---	212	1,940	1,524	1086	16.50	72.26	92	1.00	4.40
	TOTAL								**16.50**	**72.26**		**1.00**	**4.40**

Molecular Weights (lb/lb-mol):
SO_2: 64
Ethanol: 46

The Jet Conversion Flash Chamber (18V413) and Syrup Pre-Evaporator (14X20) are vented to Scrubber 15F401 in the Wet Milling Operations.
The Jet Conversion Flash Chamber (18V413) is typically used during the production of maltodextrins; however, the Acid Reject Flash Chamber (18V312) could be used.

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] Emission Rate (lb/hr) = Emission Rate (ppm) x Design Flow (scfm) x Molecular Weight (lb/lb-mol) x 60 min/hr ÷ (385.3 scf/lb-mol x 1,000,000)
[4] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
HCl Control Device Emission Calculations
Syrup Refining Operations
Table 4D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element	Data	Value		Reference/Calculation
Uncontrolled HCl Emission Rates	[A]	144.02	lb/yr	TANKS 4.09a calculation for Sagamore HCl Tank (09V101)
	[B]	0.02	lb/hr	[A] ÷ 8760 hr/yr
	[C]	0.07	tpy	[A] ÷ 2000 lb/ton
Control Efficiency of Scrubber	[D]	99.80%		design value
Controlled HCl Emission Rates	[E]	0.0000	lb/hr	[B] x (1 - [D])
	[F]	0.0001	tpy	[C] x (1 - [D])

Appendix A: Emissions Calculations
Starch Modification Operations Emission Summary
Starch Modification Operations
Table 5A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant		Particulate Matter Control Device Emissions [1]		Starch Reactors Process Emissions [2]		Starch Modification Process and Dryer Operations Emissions [3]		Non-Propylene Oxide Starch Reactor Process Emissions [4] [5]		Total	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM		0.17	0.74	0	0	0	0	0	0	0.17	0.74
PM_{10}		0.17	0.74	0	0	0	0	0	0	0.17	0.74
$PM_{2.5}$		0.10	0.42	0	0	0	0	0	0	0.10	0.42
SO_2		0	0	0	0	0	0	2.45	10.75	2.45	10.75
VOC		0	0	1.98	8.69	4.11	18.00	8.12	35.57	14.21	62.26
HAPs											
	Propylene Oxide	0	0	1.98	8.69	4.11	18.00	0	0	6.09	26.69
	Chloroform	0	0	0	0	0	0	6.45	28.27	6.45	28.27
	Methanol	0	0	0	0	0	0	0.22	0.95	0.22	0.95

Notes:
[1] Table 5B1 -- Particulate Matter Control Device Emissions
[2] Table 5C -- Starch Reactors VOC/Propylene Oxide Emissions
[3] Table 5D -- Starch Modification Process and Dryer Operations VOC/Propylene Oxide Emissions
[4] Table 5E -- Non-Propylene Oxide Starch Reactor Limited SO_2 Emissions
[5] Table 5F -- Non-Propylene Oxide Starch Reactor VOC and HAP Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emissions
Starch Modification Operations
Table 5B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio [7]	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]		gr/dscf [8]	lb/hr [9]	TPY [5]
CHEMICAL STORAGE AND RAW STARCH RECEIVING																	
64	45V250	Sodium Sulfate Storage Bin	Bin Vents	45F25/45F25A	80	1500	1467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.56962	0.0059	0.07	0.32
68	9V103	Tri-Polyphosate Bin	Bin Vent	9F103	60	500	508	0.0092	0.04	0.18	0.0092	0.04	0.18	0.56962	0.0052	0.02	0.10
	TOTAL								**0.17**	**0.74**		**0.17**	**0.74**			**0.10**	**0.42**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] This is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 5B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Modification Operations
Table 5B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
64	45V250	Sodium Sulfate Storage Bin	Bin Vents	45F25/45F25A	0.13	0.57	12	Yes
68	9V103	Tri-Polyphosate Bin	Bin Vent	9F103	0.04	0.18	2	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Reactors VOC/Propylene Oxide Emissions
Starch Modification Operations
Table 5C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Units: 45V223, 45V240, 45V241, 45V242, 45V243, 45V246, 45V247, 45V248, 45V270, 45V271, 45V280, 45V281
45V292, 45V293, 45V294, 45V295, 45V296

Data Element			Data	Value		Reference/Calculation
Number of Reactors			[A]	18		design value, per PSD/SSM #18832, as one unit
Acid-Killed Starch						
	Production Rate of Commercial Weight (cw) Propylated Starch		[B]	420	MMlbs/yr	design value
	VOC/PO Emission Rates					
		Production (to scrubber)	[C]	65	lb/100,000 lbs	design value (95% control efficiency = 3.25 lb/100,000 lbs)
			[D]	273000	lbs/yr	[C] x [B] x 10
			[E]	136.50	tpy	[D] ÷ 2000 lb/ton
		Reactor Venting (post-production)	[F]	0.1	lb/100,000 lbs	design value
			[G]	420	lbs/yr	[F] x [B] x 10
			[H]	0.21	tpy	[G] ÷ 2000 lb/ton
Non-Acid-Killed Starch						
	Production Rate of Commercial Weight (cw) Propylated Starch		[I]	30	MMlbs/yr	design value
	VOC/PO Emission Rates					
		Production (to scrubber)	[J]	120	lb/100,000 lbs	design value (95% control efficiency = 6 lb/100,000 lbs)
			[K]	36000	lbs/yr	[J] x [I] x 10
			[L]	18.00	tpy	[K] ÷ 2000 lb/ton
		Reactor Venting (post-production)	[M]	5	lb/100,000 lbs	design value
			[N]	1500	lbs/yr	[M] x [I] x 10
			[O]	0.75	tpy	[N] ÷ 2000 lb/ton
Limited Uncontrolled VOC/PO Emissions						
	Total VOC/PO Emissions to Scrubber		[P]	154.50	tpy	[E] + [L]
	Total VOC/PO Emissions from Reactor Vents		[Q]	0.96	tpy	[H] + [O]
	Total Limited Uncontrolled VOC/PO Emissions from All Reactors		[R]	155.46	tpy	[P] + [Q]
Limited Controlled VOC/PO Emissions						
	Scrubber VOC/PO Removal Efficiency		[S]	95%		design value
	Total VOC/PO Emissions from Scrubber		{T]	7.73	tpy	[P] x (1 - [S])
	Total Limited Controlled VOC/PO Emissions from All Reactors		[U]	8.69	tpy	[T] + [Q]

The combine propylene oxide input for non-acid kill starch production has been limited to 1,500 tons (3,000,000 pounds) per year.
The VOC/PO emission rate for non-acid kill starch production before control equals 37,500 pounds per year.
A minimum of 98.75% of the propylene oxide is consumed during the production of non-acid kill starch.

Appendix A: Emissions Calculations
Starch Modification Process [1] and Dryer Operations VOC/Propylene Oxide Emissions
Starch Modification Operations
Table 5D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Operating Hours		[A]	8,760	hr/yr	design value
Acid-Killed Starch					
	Production Rate of Commercial Weight Propylated Starch	[B]	420	MMlbs/yr	design value
	VOC/PO Emission Rates from Flash Dryers (40D1, 40D20, 43D71); Belt Dryers (16D4, 16D5); Roll Dryers (41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, 19D303); Spray Dryers (30D1, 46D200)	[C]	6	lb/100,000 lbs	design value
		[D]	25200	lbs/yr	[C] x [B] x 10
		[E]	12.60	tpy	[D] ÷ 2000 lb/ton
Non-Acid-Killed Starch					
	Production Rate of Commercial Weight Propylated Starch	[F]	30	MMlbs/yr	design value
	VOC/PO Emission Rates from Spray Dryers Nos. 1 - 2 Feed Tanks and Starch Washing Tanks Aspiration System	[G]	16	lb/100,000 lbs	design value
		[H]	4800	lbs/yr	[G] x [F] x 10
		[I]	2.40	tpy	[H] ÷ 2000 lb/ton
	VOC/PO Emission Rates from Spray Dryers Nos. 1 - 2 (30D1, 46D200)	[J]	20	lb/100,000 lbs	design value
		[K]	6000	lbs/yr	[J] x [F] x 10
		[L]	3.00	tpy	[K] ÷ 2000 lb/ton
Total VOC/PO Emissions from Process/Dryer Operations		[M]	18.00	tpy	[E] + [I] + [L]
		[N]	4.11	lb/hr	[M] x 2000 lb/ton ÷ [A]

Notes:

[1] The emissions calculated in this table, in addition to the dryers listed, include emissions from the following process equipment:
Flash 1 Centrifuge (40Y1); Flash 1 Hold Tanks (40V1, 40V50); Flash 1 Mixer (40U2); Flash 2 Hold Tanks (40V20, 40V21); Flash 2 Filters (40F51 - 40F54);
Flash 2 Air Release Tanks (40V15 and 40V16); Flash 2 Mixer (40U23); Flash 3 Hold Tanks (43V71, 43V72); Flash 3 Feed Tank (43V73);
Flash 3 Filters (43F71, 43F72, 43F73); Flash 3 Air Release Tanks (43V85, 43V86); Flash 3 Mixer (43U74); Spray Dryer 1 Feed Tanks (30V1, 30V2);
Spray Dryer 1 Process Tanks (40V11, 40V12, 40V14); Spray Dryer 2 Feed Tank (46V297); Spray Dryer 2 Sweco Tank (46V201);
Spray Dryer 2 Surge Tank (46V213); Spray Dryer 2 Under Flow Tank (46V204); Belt Dryer Feed Tanks (45V117 - 45V120)

Appendix A: Emissions Calculations
Starch Reactors (Acid-Thinned Starch Without Peroxide) Limited SO2 Emissions
Starch Modification Operations
Table 5E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Units: 45V115, 45V116, and 45V222

Data Element	Data	Value		Reference/Calculation
Operating Hours	[A]	8,760	hr/yr	design value
Production Rate of Commercial Weight Starch	[B]	50	MMlbs/yr	design value
SO_2 Emission Rates	[C]	43	lb/100,000 lbs	design value
	[D]	21500	lbs/yr	[C] x [B] x 10
	[E]	10.75	tpy	[D] ÷ 2000 lb/ton

Appendix A: Emissions Calculation
Non-Propylene Oxide Reactors/Oxidized Starch Reactors VOC and HAP Emissions
Starch Modification Operations
Table 5F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.:157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Units: 45V115, 45V116, 45V222, 18V174, 18V175, 18V179, 18V173, 18V178, and 18V180

Data Element			Data Designation	Value		Reference/Calculation
Molecular Weights						
	Methanol		[A]	32	lb-lb/mol	
	Ethanol		[B]	46	lb-lb/mol	
	1-Propanol		[C]	60	lb-lb/mol	
	Ethyl Acetate		[D]	88	lb-lb/mol	
	Chloroform		[E]	119	lb-lb/mol	
	1-Butanol		[F]	74	lb-lb/mol	
Molar Volumetric Gas Constant			[G]	385.3	ft^3/lb-mol	constant based on 68°F standard temperature
Exhaust Gas Average Temperature			[H]	68.3	F	as measured during 2/13/09 test
			[I]	20.17	C	([H] - 32) x 5/9
Exhaust Gas Average Moisture			[J]	1.75	%	as measured during 2/13/09 test
Exhaust Gas Average Flow Rate			[K]	1710.0	acfm	as measured during 2/13/09 test
			[L]	1709.0	scfm	[K] x (460 F + 68 F) ÷ (460 F + [H])
			[M]	1679.1	dscfm	[L] x (1 - ([J] ÷ 100))
Test (Batch) Time			[N]	606.0	minutes	2/13/09 test duration
Emission Rates						
	Methanol		[O]	6.07	ppmdv	average value during 2/13/09 test
			[P]	0.006	lb/batch	[O] x [M] x [A] x [N] ÷ ([G] x 1000000)
	Ethanol		[Q]	2.27	ppmdv	average value during 2/13/09 test
			[R]	0.003	lb/batch	[Q] x [M] x [B] x [N] ÷ ([G] x 1000000)
	1-Propanol		[S]	3.04	ppmdv	average value during 2/13/09 test
			[T]	0.005	lb/batch	[S] x [M] x [C] x [N] ÷ ([G] x 1000000)
	Ethyl Acetate		[U]	2.78	ppmdv	average value during 2/13/09 test
			[V]	0.007	lb/batch	[U] x [M] x [D] x [N] ÷ ([G] x 1000000)
	Chloroform		[W]	47.5	ppmdv	average value during 2/13/09 test
			[X]	0.169	lb/batch	[W] x [M] x [E] x [N] ÷ ([G] x 1000000)
	1-Butanol		[Y]	1.48	ppmdv	average value during 2/13/09 test
			[Z]	0.003	lb/batch	[Y] x [M] x [F] x [N] ÷ ([G] x 1000000)
	Total VOC		[AA]	0.194	lb/batch	[P] + [R] + [T] + [V] + [X] + [Z]
Chloroform Measured in Slurry at End of Batch			[BB]	3.89	lb/batch	as measured during 2/13/09 test
Estimates of Other Species in Slurry at End of Batch						
	Methanol		[CC]	37.714	lb/batch	[P] ÷ [AA] x [BB]
	Ethanol		[DD]	20.274	lb/batch	[R] ÷ [AA] x [BB]
	1-Propanol		[EE]	35.415	lb/batch	[T] ÷ [AA] x [BB]
	Ethyl Acetate		[FF]	47.500	lb/batch	[V] ÷ [AA] x [BB]
	1-Butanol		[GG]	21.265	lb/batch	[Z] ÷ [AA] x [BB]
Chloroform Measured in Filtrate after Slurry is Filtered			[HH]	0.275	lb/batch	as measured during 2/13/09 test
Estimates of Other Species in Filtrate after Slurry is Filtered						
	Methanol		[II]	29.944	lb/batch	[P] ÷ [AA] x [HH]
	Ethanol		[JJ]	16.098	lb/batch	[R] ÷ [AA] x [HH]
	1-Propanol		[KK]	28.119	lb/batch	[T] ÷ [AA] x [HH]
	Ethyl Acetate		[LL]	37.714	lb/batch	[V] ÷ [AA] x [HH]
	1-Butanol		[MM]	16.884	lb/batch	[Z] ÷ [AA] x [HH]
Total Emitted (Reaction + Drying)						
	Chloroform		[NN]	3.784	lb/batch	[X] + [BB] - [HH]
	Methanol		[OO]	7.776	lb/batch	[P] + [CC] - [II]
	Ethanol		[PP]	4.180	lb/batch	[R] + [DD] - [JJ]
	1-Propanol		[QQ]	7.302	lb/batch	[T] + [EE] - [KK]
	Ethyl Acetate		[RR]	9.793	lb/batch	[V] + [FF] - [LL]
	1-Butanol		[SS]	4.384	lb/batch	[Z] + [GG] - [MM]
Test Batch Size			[TT]		lb. comm. wt.	as measured during 2/13/09 test
Production Batch Size (per reactor)			[UU]		lb. comm. wt.	design
Emission Factors						
	Chloroform		[VV]		lb/100000 lbs. comm. wt.	[NN] x [UU] ÷ [TT]
	Methanol		[WW]		lb/100000 lbs. comm. wt.	[OO] x [UU] ÷ [TT]
	Ethanol		[XX]		lb/100000 lbs. comm. wt.	[PP] x [UU] ÷ [TT]
	1-Propanol		[YY]		lb/100000 lbs. comm. wt.	[QQ] x [UU] ÷ [TT]
	Ethyl Acetate		[ZZ]		lb/100000 lbs. comm. wt.	[RR] x [UU] ÷ [TT]
	1-Butanol		[AAA]		lb/100000 lbs. comm. wt.	[SS] x [UU] ÷ [TT]
	Total VOC		[BBB]		lb/100000 lbs. comm. wt.	[VV] + [WW] + [XX] + [YY] + [ZZ] + [AAA]
Calculated Annual Emissions						
	No. of Reactors		[CCC]	9		design
	Batch Cycle Time (per reactor)		[DDD]		hours	design (see attached batch schedule)
	Hours/12-Month Period		[EEE]	8760	hours	design
	Cycles Per 12-Month Period		[FFF]		cycles	[EEE] ÷ [DDD] x [CCC]
	Total Production Per 12-Month Period		[GGG]		lbs. comm. wt.	[FFF] x [UU]
			[HHH]		tons comm. wt.	[GGG] ÷ 2000 lb/ton
	VOC Multiplier		[III]	1.1		factor used to account for any unaccounted VOC species
	Emission Rate					
		Chloroform	[JJJ]	56531.1	lb/yr	([GGG] ÷ [UU]) x [VV]
			[KKK]	28.3	TPY	[JJJ] ÷ 2000 lb/ton
			[LLL]	3.1	TPY per reactor	[KKK] ÷ [CCC]
		Methanol	[MMM]	1893.9	lb/yr	([GGG] ÷ [UU]) x [WW]
			[NNN]	0.9	TPY	[MMM] ÷ 2000 lb/ton
			[OOO]	0.1	TPY per reactor	[NNN] ÷ [CCC]
		VOC	[PPP]	71142.0	lb/yr	([GGG] ÷ [UU]) x [BBB] x [III]
			[QQQ]	35.6	TPY	[PPP] ÷ 2000 lb/ton
			[RRR]	4.0	TPY per reactor	[QQQ] ÷ [CCC]

Appendix A: Emissions Calculations
Particulate Matter Control Device Emissions
Starch Reaction Operations
Table 6A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
DRY STARCH REACTION SYSTEM																	
236/355	33V1	Starch Feed Bin [10] [11]	Bin Vent	33F1	70	4,200	4,184	0.0081	0.29	1.27	0.0081	0.29	1.27	0.56962	0.0046	0.17	0.72
237/355	33V2	Starch Feed Bin [10] [11]	Bin Vent	33F2	70	4,200	4,184	0.0081	0.29	1.27	0.0081	0.29	1.27	0.56962	0.0046	0.17	0.72
238	33R1	Low Pressure Dry Starch Reactor [10] [11]	Baghouses	33F101/33F102	100	1,200	1,131	0.0080	0.078	0.34	0.0080	0.078	0.34	0.56962	0.0046	0.04	0.19
239	33V5	Catalyst Storage Bin [10] [11]	Bin Vent	33F5	70	500	498	0.0080	0.034	0.15	0.0080	0.034	0.15	0.56962	0.0045	0.02	0.08
240	33R2	High Pressure Dry Starch Reactor [12]	Baghouses	33F201/33F202	100	1,200	1,131	0.0082	0.08	0.35	0.0082	0.08	0.35	0.56962	0.0047	0.05	0.20
241/361	50V61	Reactor Surge Bin	Bin Vent	50F161	160	1,600	1,363	0.0094	0.11	0.48	0.0094	0.11	0.48	0.56962	0.0054	0.06	0.27
242/361	50V62	Reactor Surge Bin	Bin Vent	50F162	160	1,600	1,363	0.0094	0.11	0.48	0.0094	0.11	0.48	0.56962	0.0054	0.06	0.27
243/355	50F48	Dry Starch Product Screening Rec. [12]	Baghouse	50F48	70	1,000	996	0.0094	0.07	0.31	0.0094	0.07	0.31	0.56962	0.0047	0.04	0.17
	50G1	Reactor 2 Mill [12]															
244/355	33V42	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F42	70	8,000	7,970	0.0081	0.55	2.41	0.0081	0.55	2.41	0.37705	0.003	0.21	0.91
245/355	33V43	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F43	70												
246/355	33V40	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F40	70												
247/355	33V41	Dry Starch Blend Bin [10] [11] [12]	Bin Vent	33F41	70												
244-247/355	50G2	Additives Mill [12]	Baghouse	50F11	70												
262/355	50F45	Dry Starch Product Screening Rec. [10] [11]	Baghouse	50F45	70	1,000	996	0.0082	0.07	0.31	0.0082	0.07	0.31	0.56962	0.0047	0.04	0.17
	TOTAL								**1.68**	**7.37**		**1.68**	**7.37**			**0.85**	**3.73**

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68)÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PMcontrolled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 6B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PMcontrolled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4195-00003 and revised pursuant to A 157-6170-00003 and Part 70 Operating Permit No. T157-6009-00003.
[11] The PM_{10} lb/hr emission rate is based on a PSD minor limit determination, pursuant to Part 70 Operating Permit No. T157-6009-00003.
[12] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Reaction Operations
Table 6B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
236/355	33V1	Starch Feed Bin	Bin Vent	33F1	0.29	1.27	38	Yes
237/355	33V2	Starch Feed Bin	Bin Vent	33F2	0.29	1.27	38	Yes
238	33R1	Low Pressure Dry Starch Reactor	Baghouses	33F101/33F102	0.08	0.35	6	Yes
239	33V5	Catalyst Storage Bin	Bin Vent	33F5	0.03	0.13	1	Yes
240	33R2	High Pressure Dry Starch Reactor	Baghouses	33F201/33F202	0.08	0.35	6	Yes
241/361	50V61	Reactor Surge Bin	Bin Vent	50F161	0.11	0.48	9	Yes
242/361	50V62	Reactor Surge Bin	Bin Vent	50F162	0.11	0.48	9	Yes
243/355	50F48	Dry Starch Product Screening Rec.	Baghouse	50F48	0.07	0.31	5	Yes
	50G1	Reactor 2 Mill						
244/355	33V42	Dry Starch Blend Bin	Bin Vent	33F42	0.55	2.41	100	Yes
245/355	33V43	Dry Starch Blend Bin	Bin Vent	33F43				
246/355	33V40	Dry Starch Blend Bin	Bin Vent	33F40				
247/355	33V41	Dry Starch Blend Bin	Bin Vent	33F41				
244-247/355	50G2	Additives Mill	Baghouse	50F11				
262/355	50F45	Dry Starch Product Screening Rec.	Baghouse	50F45	0.07	0.31	5	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on PM = $4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Drying & Storage Emissions Summary
Starch Drying and Handling Operations
Table 7A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Particulate Matter Control Device Emissions [1]		Flash Dryer No. 1 Process Emissions [2]		Flash Dryer No. 2 Process Emissions [3]		Flash Dryer No. 3 Process Emissions [4]		Spray Dryer No. 1 Process Emissions [5]		Spray Dryer No. 2 Process Emissions [6]		Spray Agglomerator Process Emissions [7]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
PM	44.35	194.25	0	0	0	0	0	0	0	0	0	0	0	0	44.35	194.25
PM_{10}	44.35	194.25	0	0	0	0	0	0	0	0	0	0	0	0	44.35	194.25
$PM_{2.5}$	16.72	73.24	0	0	0	0	0	0	0	0	0	0	0	0	16.72	73.24
SO_2	0	0	0.01	0.04	0.02	0.11	0.02	0.11	0.01	0.06	0.02	0.07	0.004	0.02	0.09	0.39
NO_x	0	0	1.44	6.31	4.00	17.52	4.00	17.52	2.40	10.51	1.00	4.38	0.62	2.72	13.46	58.95
VOC	0	0	0.24	1.04	0.66	2.88	0.66	2.88	0.39	1.73	0.41	1.80	0.10	0.45	2.46	10.76
CO	0	0	1.21	5.30	3.36	14.72	3.36	14.72	2.02	8.83	2.10	9.20	0.52	2.28	12.57	55.04
GHGs (as CO_2e)	0	0	1,739	7,615	4,829	21,152	4,829	21,152	2,898	12,691	3,006	13,167	749	3,279	18,049	79,055
HAPs																
Total POM	0	0	7.46E-07	3.27E-06	2.07E-06	9.08E-06	2.07E-06	9.08E-06	1.24E-06	5.45E-06	1.30E-06	5.67E-06	3.21E-07	1.41E-06	7.75E-06	3.39E-05
Benzene	0	0	3.02E-05	1.32E-04	8.40E-05	3.68E-04	8.40E-05	3.68E-04	5.04E-05	2.21E-04	5.25E-05	2.30E-04	1.30E-05	5.70E-05	3.14E-04	1.38E-03
Dichlorobenzene	0	0	1.73E-05	7.57E-05	4.80E-05	2.10E-04	4.80E-05	2.10E-04	2.88E-05	1.26E-04	3.00E-05	1.31E-04	7.44E-06	3.26E-05	1.80E-04	7.86E-04
Formaldehyde	0	0	0.21	0.92	0.58	2.56	0.58	2.56	0.35	1.54	0.37	1.60	0.09	0.40	2.19	9.58
Hexane	0	0	0.03	0.11	0.07	0.32	0.07	0.32	0.04	0.19	0.05	0.20	0.01	0.05	0.27	1.18
Naphthalene	0	0	8.78E-06	3.85E-05	2.44E-05	1.07E-04	2.44E-05	1.07E-04	1.46E-05	6.41E-05	1.53E-05	6.68E-05	3.78E-06	1.66E-05	9.13E-05	4.00E-04
Toluene	0	0	4.90E-05	2.14E-04	1.36E-04	5.96E-04	1.36E-04	5.96E-04	8.16E-05	3.57E-04	8.50E-05	3.72E-04	2.11E-05	9.23E-05	5.09E-04	2.23E-03
Arsenic	0	0	2.88E-06	1.26E-05	8.00E-06	3.50E-05	8.00E-06	3.50E-05	4.80E-06	2.10E-05	5.00E-06	2.19E-05	1.24E-06	5.43E-06	2.99E-05	1.31E-04
Cadmium	0	0	1.58E-05	6.94E-05	4.40E-05	1.93E-04	4.40E-05	1.93E-04	2.64E-05	1.16E-04	2.75E-05	1.20E-04	6.82E-06	2.99E-05	1.65E-04	7.21E-04
Chromium	0	0	2.02E-05	8.83E-05	5.60E-05	2.45E-04	5.60E-05	2.45E-04	3.36E-05	1.47E-04	3.50E-05	1.53E-04	8.68E-06	3.80E-05	2.09E-04	9.17E-04
Cobalt	0	0	1.21E-06	5.30E-06	3.36E-06	1.47E-05	3.36E-06	1.47E-05	2.02E-06	8.83E-06	2.10E-06	9.20E-06	5.21E-07	2.28E-06	1.26E-05	5.50E-05
Manganese	0	0	5.47E-06	2.40E-05	1.52E-05	6.66E-05	1.52E-05	6.66E-05	9.12E-06	3.99E-05	9.50E-06	4.16E-05	2.36E-06	1.03E-05	5.68E-05	2.49E-04
Mercury	0	0	3.74E-06	1.64E-05	1.04E-05	4.56E-05	1.04E-05	4.56E-05	6.24E-06	2.73E-05	6.50E-06	2.85E-05	1.61E-06	7.06E-06	3.89E-05	1.70E-04
Nickel	0	0	3.02E-05	1.32E-04	8.40E-05	3.68E-04	8.40E-05	3.68E-04	5.04E-05	2.21E-04	5.25E-05	2.30E-04	1.30E-05	5.70E-05	3.14E-04	1.38E-03
TOTAL HAPs	0	0	0.24	1.04	0.66	2.88	0.66	2.88	0.39	1.73	0.41	1.80	0.10	0.45	2.46	10.77

VOC emissions from Roll Dryers 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, and 19D303 have been accounted for in Table 5D.

Notes:
[1] Table 7B1 -- Particulate Matter Control Device Emissions
[2] Table 7C -- Starch Flash Dryer No. 1 (40D1) Natural Gas Combustion Emissions
[3] Table 7D -- Starch Flash Dryer No. 2 (40D20) Natural Gas Combustion Emissions
[4] Table 7E -- Starch Flash Dryer No. 1 (43D71) Natural Gas Combustion Emissions
[5] Table 7F -- Starch Spray Dryer No. 1 (30D1) Natural Gas Combustion Emissions
[6] Table 7G -- Starch Spray Dryer No. 2 (46D200) Natural Gas Combustion Emissions
[7] Table 7H -- Starch Spray Agglomerator (50D101) Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Starch Drying and Handling Operations
Table 7B1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$-PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
FLASH DRYER NO. 1 SYSTEM																	
69	40D1	Starch Flash Dryer No. 1 [10]	Scrubber	40F3	100	23,500	22,157	0.0063	1.2	5.26	0.0063	1.2	5.26	0.37705	0.0024	0.45	1.98
70	40F7	Pneumatic Product Transfer [10]	Baghouse	40F7	100	3,500	3,300	0.0530	1.5	6.57	0.0530	1.5	6.57	0.37705	0.0200	0.57	2.48
71	7V8	Starch Storage Bin #8 [10]	Bin Vent	7F8	110	650	602	0.0058	0.03	0.13	0.0058	0.03	0.13	0.37705	0.0022	0.01	0.05
72	7V9	Starch Storage Bin #9 [10]	Bin Vent	7F9	110	650	602	0.0058	0.03	0.13	0.0058	0.03	0.13	0.37705	0.0022	0.01	0.05
146	25G1	Flash Dryer #1 Mill Prod. Coll.	Baghouse	25F2	80	2,800	2,738	0.0102	0.23	1.01	0.0102	0.23	1.01	0.37705	0.0037	0.09	0.38
147	25F1	Pneu. Conv. To Mill Feed Rec.	Baghouse	25F1	80	650	636	0.0102	0.05	0.22	0.0102	0.05	0.22	0.37705	0.0035	0.02	0.08
274	43V90	Adipic Acid Storage Bin [11]	Bin Vent	43F90	70	500	498	0.2811	1.2	5.26	0.2811	1.2	5.26	0.37705	0.1060	0.45	1.98
FLASH DRYER NO. 2 SYSTEM																	
73	40D20	Starch Flash Dryer No. 2 [12] [13]	Scrubber	40F26	105	110,000	102,796	see note	7.54	33.03	see note	7.54	33.03	0.37705	0.0032	2.84	12.45
76	7V20	Starch Product Bin No. 20 [13]	Bin Vent	7F20	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
77	7V21	Starch Product Bin No. 21 [13]	Bin Vent	7F21	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
78	7V22	Starch Product Bin No. 22 [13]	Bin Vent	7F22	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
267	7V23	Starch Product Bin No. 23 [13]	Bin Vent	7F33	80	2,100	2,053	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0019	0.03	0.15
	40F27	Grinder Feed Collector [14] [15]															
286/360	40G20	Starch Grinder/Mill #1 [13]	Baghouse	40F28	140	3,600	3,168	0.005	0.14	0.61	0.005	0.14	0.61	0.37705	0.0019	0.05	0.23
287/360	40G21	Starch Grinder/Mill #2 [13]	Baghouse	40F29	140	3,600	3,168	0.005	0.14	0.61	0.005	0.14	0.61	0.37705	0.0019	0.05	0.23
FLASH DRYER NO. 3 SYSTEM																	
265	43D71	Starch Flash Dryer No. 3 [16]	Scrubber	43F80	105	110,000	102,796	0.0086	7.54	33.03	0.0086	7.54	33.03	0.37705	0.0032	2.84	12.45
266	40G88	Flash 3 Mill [16]	Baghouse	40F88	120	3,300	3,004	0.0089	0.23	1.01	0.0089	0.23	1.01	0.37705	0.0034	0.09	0.38
268	7V34	Starch Bin [16]	Bin Vent	7F34	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
269	7V35	Starch Bin [16]	Bin Vent	7F35	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
345	7V91	Blend Bin #1 [16]	Bin Vent	7F91	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
346	7V92	Blend Bin #2 [16]	Bin Vent	7F92	70	2,900	2,889	0.0081	0.2	0.88	0.0081	0.2	0.88	0.37705	0.0030	0.08	0.33
41 BLDG. ROLL DRYER SYSTEM																	
96/355	41F200	Pneumatic Product Transfer Roll Dryer [17]	Baghouse	41F200	150	6,500	5,626	0.0058	0.28	1.23	0.0058	0.28	1.23	0.37705	0.0022	0.11	0.46
	41G200	Roll Dryer Mill [17]	Baghouse	41F210													
97	41V10	Product Bin #10 [17]	Bin Vent	41F10	110	760	704	0.0050	0.03	0.13	0.0050	0.03	0.13	0.37705	0.0019	0.01	0.05
98	41V11	Product Bin #11 [17]	Bin Vent	41F11	110	760	704	0.0050	0.03	0.13	0.0050	0.03	0.13	0.37705	0.0019	0.01	0.05
100/355	41F201	Pneumatic Product Transfer Roll Dryer [17]	Baghouse	41F201	150	6,500	5,626	0.0081	0.39	1.71	0.0081	0.39	1.71	0.37705	0.0030	0.15	0.64
	41G201	Roll Dryer Mill [17]	Baghouse	41F211													
19 BLDG. ROLL DRYER SYSTEM																	
86/355	41C35	Product Trans. to Bins #17 & 18 [13]	Baghouses	41F20, 41F21	100	2,000	1,886	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
89	41V17	Product Bin #17 [13]	Bin Vent	41F22	100	300	283	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
90	41V18	Product Bin #18 [13]	Bin Vent	41F23	100	300	283	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
344	41F13	Bulk Bag Dump Station [17] [18]	Bin Vent	41F13	70	600	598	0.0059	0.03	0.13	0.0059	0.03	0.13	0.37705	0.0022	0.01	0.05
366	19F400	Roll Dryer Mill Feed Collector Baghouse [13] [15]	Baghouse	19F400	100	18,000	16,971	0.005	0.73	3.20	0.005	0.73	3.20	0.37705	0.0019	0.28	1.21
	19G401	Roll Dryer System Mill [13]	Baghouse	19F402													
SPRAY DRYER NO. 1 SYSTEM																	
82	30D1	Spray Dryer No. 1 [17]	Baghouses	30F2, 30F3	200	59,000	47,200	0.0110	4.45	19.49	0.0110	4.45	19.49	0.37705	0.0041	1.68	7.35
85/355	41C30	Product Trans. to Bins #14 & 15 [13]	Baghouses	41F14, 41F15	100	2,000	1,886	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
87	41V14	Product Bin #14 [13]	Bin Vent	41F16	120	300	273	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
88	41V15	Product Bin #15 [13]	Bin Vent	41F17	120	300	273	0.005	0.01	0.04	0.005	0.01	0.04	0.37705	0.0016	0.00	0.02
SPRAY DRYER NO. 2 SYSTEM																	
84/360	30G1	Dryer Mill [17]	Baghouse	30F15	110	15,000	13,895	0.0080	0.95	4.16	0.0080	0.95	4.16	0.37705	0.0030	0.36	1.57
226	41V45	Product Bin 45 [13]	Bin Vent	41F45	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
248	33V44	Product Bin 44 [13]	Bin Vent	33F44	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
255	41V46	Product Bin 46 [13]	Bin Vent	41F46	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
360/360	46D200	Spray Dryer No. 2 [13] [20]	Baghouses	46F231, 46F232	200	120,000	96,000	see note	6.61	28.95	see note	6.61	28.95	0.37705	0.0030	2.49	10.92
432	41V47	Product Bin 47 [13]	Bin Vent	41F47	110	2,000	1,853	0.005	0.08	0.35	0.005	0.08	0.35	0.37705	0.0019	0.03	0.13
	30F13	Product Transfer to Milling [13] [15] [19]															
SPRAY AGGLOMERATION SYSTEM & SPRAY DRYER #3 SYSTEM																	
349/361	50D101	Spray Agglomeration System [18] [21]	Baghouse	50F102	200	20,000	16,000	0.0080	1.10	4.82	0.0080	1.10	4.82	0.37705	0.0030	0.41	1.82
350/361	50F106	Agglomeration Blender/Receiver [18] [21]	Baghouse	50F106	80	1,500	1,467	0.0080	0.10	0.44	0.0080	0.10	0.44	0.37705	0.0030	0.04	0.17
	50V111	Bulk Bag Feed #1 Dump Station [18]															
	50V112	Bulk Bag Feed #2 Dump Station [18]															
BELT DRYER SYSTEM																	
103	7F25	Belts Product Conveying Mill Product to Bins 3, 4, 5	Baghouse	7F25	80	300	293	0.0100	0.03	0.13	0.0100	0.03	0.13	0.37705	0.0045	0.01	0.05
104	7F26	Belts Product Conveying Mill Product to Bins 1, 2, 3	Baghouse	7F26	80	300	293	0.0100	0.03	0.13	0.0100	0.03	0.13	0.37705	0.0045	0.01	0.05
105	7V46	Product Bin 5	Bin Vent	7F69	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
106	7V47	Product Bin 4	Bin Vent	7F70	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
107	7V48	Product Bin 3	Bin Vent	7F71	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
108	7V49	Product Bin 2	Bin Vent	7F72	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
109	7V50	Product Bin 1	Bin Vent	7F73	80	750	733	0.0100	0.06	0.26	0.0100	0.06	0.26	0.37705	0.0036	0.02	0.10
177	16D4	Belt Dryer No. 1	1st Stage Scrubber	16F26	150	31,500	27,266	0.0108	3.89	17.04	0.0108	3.89	17.04	0.37705	0.0063	1.47	6.42
			2nd Stage Scrubber	17F78	140	16,800	14,784										
	16D5	Belt Dryer No. 2	1st Stage Scrubber	16F27	150	31,500	27,266	0.0108	3.89	17.04	0.0108	3.89	17.04	0.37705	0.0063	1.47	6.42
			2nd Stage Scrubber	17F79	140	16,800	14,784										
	TOTAL								**44.35**	**194.25**		**44.35**	**194.25**			**16.72**	**73.24**

VOC emissions from Roll Dryers 41D1, 41D2, 41D3, 41D4, 41D5, 41D6, 41D7, 41D8, 19D301, 19D302, and 19D303 have been accounted for in Table 5D.

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) / (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb / (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 7B2) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr / 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb / [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP (79) 1599 and OP 79-10-90-0406.
[11] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4569-00003 and A 157-6180-00003.
[12] The grain loading is 0.008 gr/acf.
[13] The grain loading as well as the PM and PM_{10} emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[14] Emission unit 40F27 can exhaust to the intake of bins 7V20, 7V21, 7V22 and 7V23.
[15] The airflow for this emission unit was accounted for when the original BACT was determined.
[16] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to CP 157-9182-00003, AA 157-15029-00003, and SPM 157-19702-00003.
[17] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-5294-00003.
[18] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[19] Emission unit 30F13 can exhaust to the intake of bins 41V45, 41V46, 41V47, and 33V44.
[20] The grain loading is 0.008 gr/scf.
[21] The PM and PM_{10} lb/hr emission rates are based on a PSD minor limit determination, pursuant to MSM 157-11907-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Drying and Handling Operations
Table 7B2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
FLASH DRYER NO. 1 SYSTEM								
69	40D1	Starch Flash Dryer No. 1	Scrubber	40F3	1.20	5.26	320	Yes
70	40F7	Pneumatic Product Transfer	Baghouse	40F7	0.15	0.66	14	Yes
71	7V8	Starch Storage Bin #8	Bin Vent	7F8	0.03	0.13	1	Yes
72	7V9	Starch Storage Bin #9	Bin Vent	7F9	0.03		1	Yes
146	25G1	Flash Dryer #1 Mill Prod. Coll.	Baghouse	25F2	0.23	1.01	27	Yes
147	25F1	Pneu. Conv. To Mill Feed Rec.	Baghouse	25F1	0.05	0.22	3	Yes
274	43V90	Adipic Acid Storage Bin	Bin Vent	43F90	0.03	0.13	1	Yes
FLASH DRYER NO. 3 SYSTEM								
265	43D71	Starch Flash Dryer No. 3	Scrubber	43F80	7.54	33.03	4,965	Yes
266	40G88	Flash 3 Mill	Baghouse	40F88	0.23	1.01	27	Yes
268	7V34	Starch Bin	Bin Vent	7F34	0.20	0.88	22	Yes
269	7V35	Starch Bin	Bin Vent	7F35	0.20		22	Yes
345	7V91	Blend Bin #1	Bin Vent	7F91	0.20	0.88	22	Yes
346	7V92	Blend Bin #2	Bin Vent	7F92	0.20	0.88	22	Yes
41 BLDG. ROLL DRYER SYSTEM								
96/355	41F200	Pneumatic Product Transfer Roll Dryer	Baghouse	41F200	0.28	1.23	36	Yes
	41G200	Roll Dryer Mill	Baghouse	41F210				
97	41V10	Product Bin #10	Bin Vent	41F10	0.03	0.13	1	Yes
98	41V11	Product Bin #11	Bin Vent	41F11	0.03	0.13	1	Yes
100/355	41F201	Pneumatic Product Transfer Roll Dryer	Baghouse	41F201	0.39	1.71	60	Yes
	41G201	Roll Dryer Mill	Baghouse	41F211				
19 BLDG. ROLL DRYER SYSTEM								
344	41F13	Bulk Bag Dump Station	Bin Vent	41F13	0.03	0.13	1	Yes
SPRAY DRYER NO. 1 SYSTEM								
82	30D1	Spray Dryer No. 1	Baghouses	30F2, 30F3	4.45	19.49	2,260	Yes
SPRAY DRYER NO. 2 SYSTEM								
84/360	30G1	Dryer Mill	Baghouse	30F15	0.95	4.16	226	Yes
SPRAY AGGLOMERATION SYSTEM & SPRAY DRYER #3 SYSTEM								
349/361	50D101	Spray Agglomeration System	Baghouse	50F102	1.10	4.82	281	Yes
350/361	50F106	Agglomeration Blender/Receiver	Baghouse	50F106	0.10	0.44	8	Yes
	50V111	Bulk Bag Feed #1 Dump Station						
	50V112	Bulk Bag Feed #2 Dump Station						
BELT DRYER SYSTEM								
103	7F25	Belts Product Conveying Mill Product to Bins 3, 4, 5	Baghouse	7F25	0.03	0.13	1	Yes
104	7F26	Belts Product Conveying Mill Product to Bins 1, 2, 3	Baghouse	7F26	0.03	0.13	1	Yes
105	7V46	Product Bin 5	Bin Vent	7F69	0.06	0.26	4	Yes
106	7V47	Product Bin 4	Bin Vent	7F70	0.06	0.26	4	Yes
107	7V48	Product Bin 3	Bin Vent	7F71	0.06	0.26	4	Yes
108	7V49	Product Bin 2	Bin Vent	7F72	0.06	0.26	4	Yes
109	7V50	Product Bin 1	Bin Vent	7F73	0.06	0.26	4	Yes
177	16D4	Belt Dryer No. 1	1st Stage Scrubber	16F26	3.89	17.04	1,849	Yes
			2nd Stage Scrubber	17F78				
	16D5	Belt Dryer No. 2	1st Stage Scrubber	16F27	3.89	17.04	1,849	Yes
			2nd Stage Scrubber	17F79				

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Starch Flash Dryer No. 1 (40D1) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	14.4
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.014

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	1.44	6.31
CO	84	lb/MMscf [5]	1.21	5.30
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.01	0.04
VOC	16.43	lb/MMscf [7]	0.24	1.04
CO_2	120,000	lb/MMscf [6]	1,728	7,569
CH_4	2.3	lb/MMscf [6]	0.03	0.15
N_2O	2.2	lb/MMscf [6]	0.03	0.14
GHGs [8]			1,728	7,569
CO_2e [9]			1,739	7,615
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	3.5E-07	1.5E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	4.3E-08	1.9E-07
Fluorene	2.8E-06	lb/MMscf [10]	4.0E-08	1.8E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	2.4E-07	1.1E-06
Pyrene	5.0E-06	lb/MMscf [10]	7.2E-08	3.2E-07
TOTAL POM			7.5E-07	3.3E-06
Benzene	2.1E-03	lb/MMscf [10]	3.0E-05	1.3E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	1.7E-05	7.6E-05
Formaldehyde	14.62	lb/MMscf [11]	0.21	0.92
Hexane	1.80	lb/MMscf [10]	0.03	0.11
Naphthalene	6.1E-04	lb/MMscf [10]	8.8E-06	3.8E-05
Toluene	3.4E-03	lb/MMscf [10]	4.9E-05	2.1E-04
Arsenic	2.0E-04	lb/MMscf [12]	2.9E-06	1.3E-05
Cadmium	1.1E-03	lb/MMscf [12]	1.6E-05	6.9E-05
Chromium	1.4E-03	lb/MMscf [12]	2.0E-05	8.8E-05
Cobalt	8.4E-05	lb/MMscf [12]	1.2E-06	5.3E-06
Manganese	3.8E-04	lb/MMscf [12]	5.5E-06	2.4E-05
Mercury	2.6E-04	lb/MMscf [12]	3.7E-06	1.6E-05
Nickel	2.1E-03	lb/MMscf [12]	3.0E-05	1.3E-04
TOTAL HAPs			0.24	1.04

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Flash Dryer No. 2 (40D20) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	40
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.040

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	4.00	17.52
CO	84	lb/MMscf [5]	3.36	14.72
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.02	0.11
VOC	16.43	lb/MMscf [7]	0.66	2.88
CO_2	120,000	lb/MMscf [6]	4,800	21,024
CH_4	2.3	lb/MMscf [6]	0.09	0.40
N_2O	2.2	lb/MMscf [6]	0.09	0.39
GHGs [8]			4,800	21,025
CO_2e [9]			4,829	21,152
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	9.6E-07	4.2E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	1.2E-07	5.3E-07
Fluorene	2.8E-06	lb/MMscf [10]	1.1E-07	4.9E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	6.8E-07	3.0E-06
Pyrene	5.0E-06	lb/MMscf [10]	2.0E-07	8.8E-07
TOTAL POM			2.1E-06	9.1E-06
Benzene	2.1E-03	lb/MMscf [10]	8.4E-05	3.7E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	4.8E-05	2.1E-04
Formaldehyde	14.62	lb/MMscf [11]	0.58	2.56
Hexane	1.80	lb/MMscf [10]	0.07	0.32
Naphthalene	6.1E-04	lb/MMscf [10]	2.4E-05	1.1E-04
Toluene	3.4E-03	lb/MMscf [10]	1.4E-04	6.0E-04
Arsenic	2.0E-04	lb/MMscf [12]	8.0E-06	3.5E-05
Cadmium	1.1E-03	lb/MMscf [12]	4.4E-05	1.9E-04
Chromium	1.4E-03	lb/MMscf [12]	5.6E-05	2.5E-04
Cobalt	8.4E-05	lb/MMscf [12]	3.4E-06	1.5E-05
Manganese	3.8E-04	lb/MMscf [12]	1.5E-05	6.7E-05
Mercury	2.6E-04	lb/MMscf [12]	1.0E-05	4.6E-05
Nickel	2.1E-03	lb/MMscf [12]	8.4E-05	3.7E-04
TOTAL HAPs			0.66	2.88

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Flash Dryer No. 3 (43D71) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	40
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.040

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	4.00	17.52
CO	84	lb/MMscf [5]	3.36	14.72
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.02	0.11
VOC	16.43	lb/MMscf [7]	0.66	2.88
CO_2	120,000	lb/MMscf [6]	4,800	21,024
CH_4	2.3	lb/MMscf [6]	0.09	0.40
N_2O	2.2	lb/MMscf [6]	0.09	0.39
GHGs [8]			4,800	21,025
CO_2e [9]			4,829	21,152
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	9.6E-07	4.2E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	1.2E-07	5.3E-07
Fluorene	2.8E-06	lb/MMscf [10]	1.1E-07	4.9E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	6.8E-07	3.0E-06
Pyrene	5.0E-06	lb/MMscf [10]	2.0E-07	8.8E-07
TOTAL POM			2.1E-06	9.1E-06
Benzene	2.1E-03	lb/MMscf [10]	8.4E-05	3.7E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	4.8E-05	2.1E-04
Formaldehyde	14.62	lb/MMscf [11]	0.58	2.56
Hexane	1.80	lb/MMscf [10]	0.07	0.32
Naphthalene	6.1E-04	lb/MMscf [10]	2.4E-05	1.1E-04
Toluene	3.4E-03	lb/MMscf [10]	1.4E-04	6.0E-04
Arsenic	2.0E-04	lb/MMscf [12]	8.0E-06	3.5E-05
Cadmium	1.1E-03	lb/MMscf [12]	4.4E-05	1.9E-04
Chromium	1.4E-03	lb/MMscf [12]	5.6E-05	2.5E-04
Cobalt	8.4E-05	lb/MMscf [12]	3.4E-06	1.5E-05
Manganese	3.8E-04	lb/MMscf [12]	1.5E-05	6.7E-05
Mercury	2.6E-04	lb/MMscf [12]	1.0E-05	4.6E-05
Nickel	2.1E-03	lb/MMscf [12]	8.4E-05	3.7E-04
TOTAL HAPs			0.66	2.88

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Dryer No. 1 (30D1) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	24
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.024

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	2.40	10.51
CO	84	lb/MMscf [5]	2.02	8.83
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.01	0.06
VOC	16.43	lb/MMscf [7]	0.39	1.73
CO_2	120,000	lb/MMscf [6]	2,880	12,614
CH_4	2.3	lb/MMscf [6]	0.06	0.24
N_2O	2.2	lb/MMscf [6]	0.05	0.23
GHGs [8]			2,880	12,615
CO_2e [9]			2,898	12,691
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	5.8E-07	2.5E-06
Fluoranthene	3.0E-06	lb/MMscf [10]	7.2E-08	3.2E-07
Fluorene	2.8E-06	lb/MMscf [10]	6.7E-08	2.9E-07
Phenanathrene	1.7E-05	lb/MMscf [10]	4.1E-07	1.8E-06
Pyrene	5.0E-06	lb/MMscf [10]	1.2E-07	5.3E-07
TOTAL POM			1.2E-06	5.4E-06
Benzene	2.1E-03	lb/MMscf [10]	5.0E-05	2.2E-04
Dichlorobenzene	1.2E-03	lb/MMscf [10]	2.9E-05	1.3E-04
Formaldehyde	14.62	lb/MMscf [11]	0.35	1.54
Hexane	1.80	lb/MMscf [10]	0.04	0.19
Naphthalene	6.1E-04	lb/MMscf [10]	1.5E-05	6.4E-05
Toluene	3.4E-03	lb/MMscf [10]	8.2E-05	3.6E-04
Arsenic	2.0E-04	lb/MMscf [12]	4.8E-06	2.1E-05
Cadmium	1.1E-03	lb/MMscf [12]	2.6E-05	1.2E-04
Chromium	1.4E-03	lb/MMscf [12]	3.4E-05	1.5E-04
Cobalt	8.4E-05	lb/MMscf [12]	2.0E-06	8.8E-06
Manganese	3.8E-04	lb/MMscf [12]	9.1E-06	4.0E-05
Mercury	2.6E-04	lb/MMscf [12]	6.2E-06	2.7E-05
Nickel	2.1E-03	lb/MMscf [12]	5.0E-05	2.2E-04
TOTAL HAPs			0.39	1.73

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Dryer No. 2 (46D200) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7G

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	25
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.025

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	0.04	lb/MMBtu [5]	1.00	4.38
CO	84	lb/MMscf [6]	2.10	9.20
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [7]	0.02	0.07
VOC	16.43	lb/MMscf [8]	0.41	1.80
CO_2	120,000	lb/MMscf [7]	3,000	13,140
CH_4	2.3	lb/MMscf [7]	0.06	0.25
N_2O	0.64	lb/MMscf [7]	0.02	0.07
GHGs [9]			3,000	13,140
CO_2e [10]			3,006	13,167
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [11]	6.0E-07	2.6E-06
Fluoranthene	3.0E-06	lb/MMscf [11]	7.5E-08	3.3E-07
Fluorene	2.8E-06	lb/MMscf [11]	7.0E-08	3.1E-07
Phenanathrene	1.7E-05	lb/MMscf [11]	4.3E-07	1.9E-06
Pyrene	5.0E-06	lb/MMscf [11]	1.3E-07	5.5E-07
TOTAL POM			1.3E-06	5.7E-06
Benzene	2.1E-03	lb/MMscf [11]	5.3E-05	2.3E-04
Dichlorobenzene	1.2E-03	lb/MMscf [11]	3.0E-05	1.3E-04
Formaldehyde	14.62	lb/MMscf [12]	0.37	1.60
Hexane	1.80	lb/MMscf [11]	0.05	0.20
Naphthalene	6.1E-04	lb/MMscf [11]	1.5E-05	6.7E-05
Toluene	3.4E-03	lb/MMscf [11]	8.5E-05	3.7E-04
Arsenic	2.0E-04	lb/MMscf [13]	5.0E-06	2.2E-05
Cadmium	1.1E-03	lb/MMscf [13]	2.8E-05	1.2E-04
Chromium	1.4E-03	lb/MMscf [13]	3.5E-05	1.5E-04
Cobalt	8.4E-05	lb/MMscf [13]	2.1E-06	9.2E-06
Manganese	3.8E-04	lb/MMscf [13]	9.5E-06	4.2E-05
Mercury	2.6E-04	lb/MMscf [13]	6.5E-06	2.8E-05
Nickel	2.1E-03	lb/MMscf [13]	5.3E-05	2.3E-04
TOTAL HAPs			0.41	1.80

Notes:
[1] Design value
Originally premitted at 45 MMBtu/hr capacity, constructed at 25 MMBtu/hr capacity
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr)÷ 2000 lb/ton
[5] The lb/MMBtu emission rate is based on a BACT determination.
[6] AP-42, Table 1.4-1, small boiler, uncontrolled
[7] AP-42, Table 1.4-2, N_2O controlled with low NOx burners
[8] Summation of organic HAP emission factors below
[9] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[10] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[11] AP-42, Table 1.4-3, only detectable values used
[12] Based on worse-case data from starch dryers
[13] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Starch Spray Agglomerator (50D101) Natural Gas Combustion Emissions
Starch Drying and Handling Operations
Table 7H

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Natural Gas Higher Heating Value (Btu/scf)	1000
Hours of Operation (hr/yr)	8760
Fiber Flash Furnace Heat Input (MMBtu/hr) [1]	6.2
Fiber Flash Furnace Natural Gas Usage (MMscf/hr) [2]	0.006

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	100	lb/MMscf [5]	0.62	2.72
CO	84	lb/MMscf [5]	0.52	2.28
PM	Included in control device emission calculations --- see Table 7B			
SO_2	0.6	lb/MMscf [6]	0.004	0.02
VOC	16.43	lb/MMscf [7]	0.10	0.45
CO_2	120,000	lb/MMscf [6]	744	3,259
CH_4	2.3	lb/MMscf [6]	0.01	0.06
N_2O	2.2	lb/MMscf [6]	0.01	0.06
GHGs [8]			744	3,259
CO_2e [9]			749	3,279
HAPs				
POM				
2-Methylnaphthalene	2.4E-05	lb/MMscf [10]	1.5E-07	6.5E-07
Fluoranthene	3.0E-06	lb/MMscf [10]	1.9E-08	8.1E-08
Fluorene	2.8E-06	lb/MMscf [10]	1.7E-08	7.6E-08
Phenanathrene	1.7E-05	lb/MMscf [10]	1.1E-07	4.6E-07
Pyrene	5.0E-06	lb/MMscf [10]	3.1E-08	1.4E-07
TOTAL POM			3.2E-07	1.4E-06
Benzene	2.1E-03	lb/MMscf [10]	1.3E-05	5.7E-05
Dichlorobenzene	1.2E-03	lb/MMscf [10]	7.4E-06	3.3E-05
Formaldehyde	14.62	lb/MMscf [11]	0.09	0.40
Hexane	1.80	lb/MMscf [10]	0.01	0.05
Naphthalene	6.1E-04	lb/MMscf [10]	3.8E-06	1.7E-05
Toluene	3.4E-03	lb/MMscf [10]	2.1E-05	9.2E-05
Arsenic	2.0E-04	lb/MMscf [12]	1.2E-06	5.4E-06
Cadmium	1.1E-03	lb/MMscf [12]	6.8E-06	3.0E-05
Chromium	1.4E-03	lb/MMscf [12]	8.7E-06	3.8E-05
Cobalt	8.4E-05	lb/MMscf [12]	5.2E-07	2.3E-06
Manganese	3.8E-04	lb/MMscf [12]	2.4E-06	1.0E-05
Mercury	2.6E-04	lb/MMscf [12]	1.6E-06	7.1E-06
Nickel	2.1E-03	lb/MMscf [12]	1.3E-05	5.7E-05
TOTAL HAPs			0.10	0.45

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, small boiler, uncontrolled
[6] AP-42, Table 1.4-2, N_2O uncontrolled
[7] Summation of organic HAP emission factors below
[8] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[9] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[10] AP-42, Table 1.4-3, only detectable values used
[11] Based on worse-case data from starch dryers
[12] AP-42, Table 1.4-4, only detectable values used

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Starch Packaging and Loadout Operations
Table 8A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID(s)	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
PACKER #1 SYSTEM																	
102	16F5	Product Transfer to Main Packer #1	Baghouse	16F5	80	1,500	1,467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.37705	0.0039	0.05	0.21
	17F27	Cationic Product Rec. for Packer #1	Baghouse	17F27													
177	17Z38	Packer #1 [10] [11]	Baghouse	17F10	80	18,500	18,089	0.0080	1.24	5.43	0.0080	1.24	5.43	0.37705	0.0030	0.47	2.05
	17V04	Packer #1 Reject Bag Dump [10] [11]															
190/177	17V6	Product Bin #6/House Vacuum Sys.	Baghouse	17F6	80	1,400	1,369	0.0102	0.12	0.53	0.0102	0.12	0.53	0.37705	0.0039	0.05	0.20
334	17U58	Reprocess Bag Dump [10] [11]	Baghouse	17F58	80	400	391	0.0089	0.03	0.13	0.0089	0.03	0.13	0.37705	0.0034	0.01	0.05
	17U59	Reprocess Tote Dump [10] [11]															
PACKER #2 SYSTEM																	
177	17Z01	Starch Transfer to Bag Packer #2 [12]	Baghouse	17F01	80	2,500	2,444	0.0081	0.17	0.74	0.0081	0.17	0.74	0.37705	0.0031	0.06	0.28
	17F2	House Dust Collector System for Bag Packer #2 [11] [12]	Baghouse	17F02	80	16,000	15,644	0.0082	1.1	4.82	0.0082	1.07	4.69	0.37705	0.0031	0.41	1.82
	17V05	Packer #2 Reject Bag Dump [11]															
PACKER #3 SYSTEM																	
184/355	41F7	Spray Cook Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F7	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z3	Spray Cook Starch Products Bag Packer #3 [13]															
	41F181	O.S. Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F181													
	41Z3	O.S. Starch Products Bag Packer #3 [13]															
186/355	41F18	Roll Dried Starch Product Transfer to Bag Packer #3 [13]	Baghouse	41F18	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z5	Roll Dried Starch Products Bag Packer #3 [13]															
256/361	41F44	Bag Packer #3 House Dust Collector [10] [11]	Baghouse	41F44	100	16,000	15,086	0.0053	0.69	3.02	0.0053	0.69	3.02	0.37705	0.0020	0.26	1.14
	41Z6	#3 Bulk Bagger [10] [11]															
428/355	41F182	Malto Product Transfer To Bag Packer #3 [13]	Baghouse	41F182	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z1	Malto Products Bag Packer #3 [13]															
429/355	41F183	Dry Starch Reacted Product Transfer to Bag Packer #3 [13]	Baghouse	41F183	80	2,700	2,640	0.005	0.11	0.48	0.005	0.11	0.48	0.37705	0.0018	0.04	0.18
	41Z2	Dry Starch Reacted Products Bag Packer #3 [13]															
430/355	41F186	Bag Packer #3 House Dust Collector [13]	Baghouse	41F186	100	16,000	15,086	0.005	0.65	2.85	0.005	0.65	2.85	0.37705	0.0019	0.25	1.07
PACKER #4 SYSTEM																	
332	17Z03	Starch Transfer to Bag Packer #4 [14]	Baghouses	17F03/17F04	80	3,000	2,933	0.0080	0.20	0.88	0.0080	0.20	0.88	0.37705	0.0030	0.08	0.33
333	17F15	House Dust Collector System For Packer #4 [11] [14]	Baghouse	17F15	80	16,000	15,644	0.0164	2.2	9.64	0.0080	1.07	4.69	0.37705	0.0062	0.83	3.63
	17V06	Packer #4 Reject Bag/Tote Dump [11] [14]															
BULK BAGGERS & TOTE PACKER SYSTEM																	
191/177	16F25	Product Transfer Collector for #1 Bulk Bagger [10] [11]	Baghouse	16F25	80	1,500	1,467	0.0103	0.13	0.57	0.0103	0.13	0.57	0.37705	0.0039	0.05	0.21
	16J44	#1 Bulk Bagger [10] [11]															
208/355	41F8/41F81/ 41F82	Product Receivers for #3 Bulk Bagger [11] [15]	Baghouses	41F8/41F81/ 41F82	80	1,700	1,662	0.0077	0.11	0.48	0.0077	0.11	0.48	0.37705	0.0029	0.04	0.18
254	17F14	Product Transfer Collector for Bulk Bagger #2 [11] [12]	Baghouse	17F14	80	1,100	1,076	0.0087	0.08	0.35	0.0087	0.08	0.35	0.37705	0.0033	0.03	0.13
	17Z14	#2 Bulk Bagger [11] [12]															
STARCH LOADOUT SYSTEMS																	
79/404	20F60	Starch Rail Loadout (Track #10) [13]	Baghouse	20F60	70	2,200	2,192	0.005	0.09	0.39	0.005	0.09	0.39	0.37705	0.0018	0.03	0.15
135/404	20F61	Starch Rail Loadout (Track #9)	Baghouse	20F61	80	2,000	1,956	0.0101	0.17	0.74	0.0101	0.17	0.74	0.37705	0.0038	0.06	0.28
183/177	16F100	J-4 Starch Rail Loadout Collector [10] [11]	Baghouse	16F100	80	2,000	1,956	0.0101	0.17	0.74	0.0101	0.17	0.74	0.37705	0.0038	0.06	0.28
189	41F6	33 Bldg Starch Bulk Truck Loadout [11] [15]	Baghouse	41F6	80	1,000	978	0.0048	0.04	0.18	0.0048	0.04	0.18	0.37705	0.0018	0.02	0.07
264/404	20F78/20F79	Bulk Truck Loadout System [11] [12]	Baghouses	20F78/20F79	80	1,800	1,760	0.0080	0.12	0.53	0.0080	0.12	0.53	0.37705	0.0030	0.05	0.20
330/404	20F1	Bulk #1 Product Screening System [11] [16]	Baghouse	20F1	80	2,200	2,151	0.0542	1.0	4.38	0.0542	1.0	4.38	0.37705	0.0204	0.38	1.65
331/404	20F50	Bulk #2 Product Screening System [11] [16]	Baghouse	20F50	80	2,200	2,151										
	TOTAL								**8.88**	**38.89**		**7.72**	**33.81**			**3.35**	**14.67**

Notes:

[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 8B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] Unless noted for other purposes, this PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[11] The PM_{10} lb/hr emission rate is based on a PSD minor limit determination, pursuant to SSM 157-30564-00003.
[12] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4160-00003.
[13] The grain loading as well as the PM and PM_{10} lb/hr emission rates are based on a BACT determination, pursuant to SSM 157-18832-00003 and SSM 157-22808-00003.
[14] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-4569-00003 and A 157-6180-00003.
[15] The PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to CP 157-5294-00003.
[16] The combined PM lb/hr emission rate is based on a PSD minor limit determination, pursuant to Exemption 157-8071-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Starch Packaging and Loadout Operations
Table 8B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
PACKER #1 SYSTEM								
102	16F5	Product Transfer to Main Packer #1	Baghouse	16F5	0.13	0.57	12	Yes
	17F27	Cationic Product Rec. for Packer #1	Baghouse	17F27				
177	17Z38	Packer #1 [9]	Baghouse	17F10	1.59	6.96	486	Yes
	17V04	Packer #1 Reject Bag Dump						
190/177	17V6	Product Bin #6/House Vacuum Sys.	Baghouse	17F6	0.12	0.53	10	Yes
334	17U58	Reprocess Bag Dump	Baghouse	17F58	0.03	0.13	1	Yes
	17U59	Reprocess Tote Dump						
PACKER #2 SYSTEM								
177	17Z01	Starch Transfer to Bag Packer #2	Baghouse	17F01	0.17	0.74	17	Yes
	17F2	House Dust Collector System for Bag Packer #2	Baghouse	17F2	1.10	4.82	281	Yes
	17V05	Packer #2 Reject Bag Dump						
PACKER #3 SYSTEM								
256/361	41F44	Bag Packer #3 House Dust Collector	Baghouse	41F44	0.69	3.02	140	Yes
	41Z6	#3 Bulk Bagger						
PACKER #4 SYSTEM								
332	17Z03	Starch Transfer to Bag Packer #4	Baghouses	17F03/17F04	0.20	0.88	22	Yes
333	17F15	House Dust Collector System For Packer #4	Baghouse	17F15	1.07	4.69	269	Yes
	17V06	Packer #4 Reject Bag/Tote Dump						
BULK BAGGERS & TOTE PACKER SYSTEM								
191/177	16F25	Product Transfer Collector for #1 Bulk Bagger	Baghouse	16F25	0.13	0.57	12	Yes
	16J44	#1 Bulk Bagger						
208/355	41F8/41F81/ 41F82	Product Receivers for #3 Bulk Bagger	Baghouses	41F8/41F81/ 41F82	0.11	0.48	9	Yes
254	17F14	Product Transfer Collector for Bulk Bagger #2	Baghouse	17F14	0.08	0.35	6	Yes
	17Z14	#2 Bulk Bagger						
STARCH LOADOUT SYSTEMS								
135/404	20F61	Starch Rail Loadout (Track #9)	Baghouse	20F61	0.17	0.74	17	Yes
183/177	16F100	J-4 Starch Rail Loadout Collector	Baghouse	16F100	0.17	0.74	17	Yes
189	41F6	33 Bldg Starch Bulk Truck Loadout	Baghouse	41F6	0.04	0.18	2	Yes
264/404	20F78/20F79	Bulk Truck Loadout System	Baghouses	20F78/20F79	0.12	0.53	10	Yes
330/404	20F1	Bulk #1 Product Screening System	Baghouse	20F1	0.15	0.66	14	Yes
331/404	20F50	Bulk #2 Product Screening System	Baghouse	20F50	0.15	0.66	14	Yes

Notes:

[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.

[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton

[3] Equivalent Process Weight Rates (PWR) were calculated based on PM = $4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Particulate Matter Control Device Emission Calculations
Boiler Support Facilities
Table 9A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	**Emission Unit Description**	Control Device Type	Control Device ID	Temp (Deg. F)	Design Flow		PM Controlled Emission Rates			PM_{10} Controlled Emission Rates			$PM_{2.5}$: PM_{10} Ratio	$PM_{2.5}$ Controlled Emission Rates		
						dacfm [1]	dscfm [2]	gr/dscf [3]	lb/hr [4]	TPY [5]	gr/dscf [3]	lb/hr [6]	TPY [5]	[7]	gr/dscf [8]	lb/hr [9]	TPY [5]
119	9V32	GMH Starch Storage Silo	Bin Vent	9F32	90	350	336	0.0104	0.03	0.13	0.0104	0.03	0.13	0.56962	0.0059	0.02	0.07
201	31V10	Utilities Lime Storage Silo	Bin Vent	31F18	80	675	660	0.0106	0.06	0.26	0.0106	0.06	0.26	0.294118	0.0031	0.02	0.08
199	31V1	Boiler Ash Silo & Truck Loading [9]	Bin Vent	31F1	200	1000	800	0.0131			0.0131			0.294118	0.0039	0.03	0.12
200	31F10	Ash Pneu. Transfer to Ash Silo [9]	Baghouse	31F10	200	2100	1680	0.0125			0.0125			0.294118	0.0037	0.05	0.23
203	31V3	Coal Storage Silo [9]	Bin Vent	31F21	80	1200	1173	0.0099	0.51	2.23	0.0099	0.51	2.23	0.294118	0.0029	0.03	0.13
204	31V4	Coal Day Bin [9]	Bin Vent	31F19	80	800	782	0.0104			0.0104			0.294118	0.0031	0.02	0.09
205	31V5	Coal Day Bin [9]	Bin Vent	31F20	80	800	782	0.0104			0.0104			0.294118	0.0031	0.02	0.09
	TOTAL								**0.60**	**2.63**		**0.60**	**2.63**			**0.18**	**0.81**

Notes:
[1] Engineering design basis
[2] Design Flow (dscfm) = Design Flow (dacfm) x (460 + 68) ÷ (460 + Temp (Deg.F))
[3] PM/PM_{10} Controlled Emission Rate (gr/dscf) = PM/PM_{10} Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ (60 min/hr x Design Flow (dscfm))
[4] Unless noted for other purposes, this is the requested PM/PM_{10} controlled emission rates for purposes of compliance with 326 IAC 6-3-2 (see Table 9B) and is not a PSD limit.
[5] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[6] This PM_{10} controlled emission rate is equal to or greater than the PM controlled emission rate and is not a PSD limit.
[7] Taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html
[8] $PM_{2.5}$ Controlled Emission Rate (gr/dscf) = $PM_{2.5}$ Controlled Emission Rate (lb/hr) x 7000 gr/lb ÷ [Design Flow (dscfm) x 60 min/hr]
[9] $PM_{2.5}$ Controlled Emission Rate (lb/hr) = PM/PM_{10} Controlled Emission Rates (lb/hr) x $PM_{2.5}/PM_{10}$ Ratio
[10] The combined PM lb/hr emission rate for these units is based on a PSD limit determination, pursuant to PSD (79) 1557 and Part 70 Operating Permit No. T157-6009-00003.

Appendix A: Emissions Calculations
Alternate Process Weight Rate Limits [1]
Boiler Support Facilities
Table 9B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

S/V ID	Emission Unit ID(s)	Emission Unit Description	Control Device Type	Control Device ID	Requested PM/PM_{10} Controlled Emission Rates		Equivalent PWR Based on Controlled Emission Rates (lb/hr) [3]	Is Equivalent PWR Less than Confidential PWR?
					lb/hr	TPY [2]		
119	9V32	GMH Starch Storage Silo	Bin Vent	9F32	0.03	0.13	1	Yes
199	31V1	Boiler Ash Silo & Truck Loading	Bin Vent	31F1	0.09	0.39	7	Yes
200	31F10	Ash Pneu. Transfer to Ash Silo	Baghouse	31F10	0.18	0.79	19	Yes
201	31V10	Utilities Lime Storage Silo	Bin Vent	31F18	0.06	0.26	4	Yes
203	31V3	Coal Storage Silo	Bin Vent	31F21	0.10	0.44	8	Yes
204	31V4	Coal Day Bin	Bin Vent	31F19	0.07	0.31	5	Yes
205	31V5	Coal Day Bin	Bin Vent	31F20	0.07	0.31	5	Yes

Notes:
[1] For purposes of compliance with 326 IAC 6-3-2, Tate & Lyle stipulates and agrees that the equivalent process weight rates based on controlled emission rates are less than the corresponding actual weight rates for which confidential treatment has been requested.
[2] Controlled Emission Rate (tons/yr) = Controlled Emission Rate (lb/hr) x 8760 hr/yr ÷ 2000 lb/ton
[3] Equivalent Process Weight Rates (PWR) were calculated based on $PM = 4.10P^{0.67}$, where P = PWR in tons/hr and PM = Allowable/Requested Emission Rate in lb/hr.

Appendix A: Emissions Calculations
Coal Boiler (31B1) and Gas/Oil Boilers (11B1, 11B2, and 11B3) PTE Summary
Utility Area
Table 10A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Scenario 1 [1]		Scenario 2 [2]		Scenario 3 [3]		Boilers PTE [4]	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	196.70	861.55	105.00	459.90	53.57	234.64	196.70	861.55
CO	20.70	90.67	31.50	137.97	13.39	58.66	31.50	137.97
PM/PM_{10}	12.50	54.75	2.85	12.48	8.84	38.72	12.50	54.75
$PM_{2.5}$	4.98	21.79	2.85	12.48	2.21	9.68	4.98	21.79
SO_2	277.28	1214.46	0.23	0.99	190.18	832.98	277.28	1214.46
VOC	1.79	7.83	2.06	9.03	0.54	2.35	2.06	9.03
GHGs (as CO_2e)	31,694	138,822	45,274	198,300	59,951	262,585	59,951	262,585
HAPs								
Total POM	2.15E-04	9.42E-04	1.94E-05	8.51E-05	8.84E-03	3.87E-02	8.84E-03	3.87E-02
Acetaldehyde	5.72E-03	2.51E-02	0	0	0	0	5.72E-03	2.51E-02
Acetophenone	1.51E-04	6.60E-04	0	0	0	0	1.51E-04	6.60E-04
Acrolein	2.91E-03	1.28E-02	0	0	0	0	2.91E-03	1.28E-02
Benzene	1.33E-02	5.83E-02	7.88E-04	3.45E-03	0	0	1.33E-02	5.83E-02
Benzyl chloride	7.03E-03	3.08E-02	0	0	0	0	7.03E-03	3.08E-02
Bis(2-ethylhexyl)phthalate	7.33E-04	3.21E-03	0	0	0	0	7.33E-04	3.21E-03
Bromoform	3.92E-04	1.72E-03	0	0	0	0	3.92E-04	1.72E-03
Carbon sulfide	1.31E-03	5.72E-03	0	0	0	0	1.31E-03	5.72E-03
2-Chloroacetophenone	7.03E-05	3.08E-04	0	0	0	0	7.03E-05	3.08E-04
Chlorobenzene	2.21E-04	9.68E-04	0	0	0	0	2.21E-04	9.68E-04
Chloroform	5.93E-04	2.60E-03	0	0	0	0	5.93E-04	2.60E-03
Cumene	5.32E-05	2.33E-04	0	0	0	0	5.32E-05	2.33E-04
Cyanide	2.51E-02	1.10E-01	0	0	0	0	2.51E-02	1.10E-01
Dichlorobenzene	1.50E-04	6.57E-04	4.50E-04	1.97E-03	0	0	4.50E-04	1.97E-03
2,4-Dinitrotoluene	2.81E-06	1.23E-05	0	0	0	0	2.81E-06	1.23E-05
Dimethyl sulfate	4.82E-04	2.11E-03	0	0	0	0	4.82E-04	2.11E-03
Ethylbenzene	9.44E-04	4.14E-03	0	0	0	0	9.44E-04	4.14E-03
Ethyl chloride	4.22E-04	1.85E-03	0	0	0	0	4.22E-04	1.85E-03
Ethylene dichloride	4.02E-04	1.76E-03	0	0	0	0	4.02E-04	1.76E-03
Ethylene dibromide	1.21E-05	5.28E-05	0	0	0	0	1.21E-05	5.28E-05
Formaldehyde	1.18E-02	5.16E-02	2.81E-02	1.23E-01	1.29E-01	5.63E-01	1.29E-01	5.63E-01
Hexane	2.26E-01	9.88E-01	6.75E-01	2.96E+00	0	0	6.75E-01	2.96E+00
Isophorone	5.83E-03	2.55E-02	0	0	0	0	5.83E-03	2.55E-02
Methyl bromide	1.61E-03	7.04E-03	0	0	0	0	1.61E-03	7.04E-03
Methyl chloride	5.32E-03	2.33E-02	0	0	0	0	5.32E-03	2.33E-02
Methyl hydrazine	1.71E-03	7.48E-03	0	0	0	0	1.71E-03	7.48E-03
Methyl methacrylate	2.01E-04	8.80E-04	0	0	0	0	2.01E-04	8.80E-04
Methyl tert butyl ether	3.52E-04	1.54E-03	0	0	0	0	3.52E-04	1.54E-03
Methylene chloride	2.91E-03	1.28E-02	0	0	0	0	2.91E-03	1.28E-02
Naphthalene	1.31E-04	5.72E-04	2.29E-04	1.00E-03	0	0	2.29E-04	1.00E-03
Phenol	1.61E-04	7.04E-04	0	0	0	0	1.61E-04	7.04E-04
Propionaldehyde	3.82E-03	1.67E-02	0	0	0	0	3.82E-03	1.67E-02
Tetrachlorotheylene	4.32E-04	1.89E-03	0	0	0	0	4.32E-04	1.89E-03
Toluene	2.84E-03	1.24E-02	1.28E-03	5.58E-03	0	0	2.84E-03	1.24E-02
1,1,1,-Trichloroethane	2.01E-04	8.80E-04	0	0	0	0	2.01E-04	8.80E-04
Styrene	2.51E-04	1.10E-03	0	0	0	0	2.51E-04	1.10E-03
Xylenes	3.72E-04	1.63E-03	0	0	0	0	3.72E-04	1.63E-03
Vinyl acetate	7.63E-05	3.34E-04	0	0	0	0	7.63E-05	3.34E-04
HCl	1.21E+01	5.28E+01	0	0	0	0	1.21E+01	5.28E+01
HF	1.51E+00	6.60E+00	0	0	0	0	1.51E+00	6.60E+00
Antimony	1.81E-04	7.92E-04	0	0	0	0	1.81E-04	7.92E-04
Arsenic	4.14E-03	1.81E-02	7.50E-05	3.29E-04	1.50E-03	6.57E-03	4.14E-03	1.81E-02
Beryllium	2.11E-04	9.24E-04	0	0	1.13E-03	4.93E-03	1.13E-03	4.93E-03
Cadmium	6.50E-04	2.85E-03	4.13E-04	1.81E-03	1.13E-03	4.93E-03	1.13E-03	4.93E-03
Chromium	2.79E-03	1.22E-02	5.25E-04	2.30E-03	1.13E-03	4.93E-03	2.79E-03	1.22E-02
Cobalt	1.01E-03	4.45E-03	3.15E-05	1.38E-04	0	0	1.01E-03	4.45E-03
Lead	4.22E-03	1.85E-02	0	0	3.38E-03	1.48E-02	4.22E-03	1.85E-02
Manganese	4.97E-03	2.18E-02	1.43E-04	6.24E-04	2.25E-03	9.86E-03	4.97E-03	2.18E-02
Mercury	8.66E-04	3.79E-03	9.75E-05	4.27E-04	1.13E-03	4.93E-03	1.13E-03	4.93E-03
Nickel	3.07E-03	1.35E-02	7.88E-04	3.45E-03	1.13E-03	4.93E-03	3.07E-03	1.35E-02
Selenium	1.31E-02	5.72E-02	0	0	5.63E-03	2.46E-02	1.31E-02	5.72E-02
TOTAL HAPs	13.92	60.96	0.71	3.10	0.16	0.68	14.49	63.49

Notes:
[1] Table 10B - Scenario 1: Coal Boiler and One Gas/Oil Boiler Firing Gas
[2] Table 10C - Scenario 2: Boilers 11B1, 11B2, and 11B3 Firing Natural Gas
[3] Table 10D - Scenario 3: Boilers 11B1, 11B2, and 11B3 Firing No. 2 Fuel Oil
[4] Worse case value from each of the three scenarios

Appendix A: Emissions Calculations
Scenario 1: Coal Boiler and One Gas/Oil Boiler Firing Gas
Utility Area
Table 10B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant		Coal Boiler [1]		Gas/Oil Boiler Firing Gas [2]		Total	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x		161.70	708.25	35.00	153.30	196.70	861.55
CO		10.20	44.68	10.50	45.99	20.70	90.67
PM/PM_{10}		11.55	50.59	0.95	4.16	12.50	54.75
$PM_{2.5}$		4.03	17.63	0.95	4.16	4.98	21.79
SO_2		277.20	1214.14	0.08	0.33	277.28	1214.46
VOC		1.10	4.82	0.69	3.01	1.79	7.83
GHGs (as CO_2e)		16,603	72,722	15,091	66,100	31,694	138,822
HAPs							
	Total POM	2.08E-04	9.13E-04	6.48E-06	2.84E-05	2.15E-04	9.42E-04
	Acetaldehyde	5.72E-03	2.51E-02	0	0	5.72E-03	2.51E-02
	Acetophenone	1.51E-04	6.60E-04	0	0	1.51E-04	6.60E-04
	Acrolein	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
	Benzene	1.31E-02	5.72E-02	2.63E-04	1.15E-03	1.33E-02	5.83E-02
	Benzyl chloride	7.03E-03	3.08E-02	0	0	7.03E-03	3.08E-02
	Bis(2-ethylhexyl)phthalate	7.33E-04	3.21E-03	0	0	7.33E-04	3.21E-03
	Bromoform	3.92E-04	1.72E-03	0	0	3.92E-04	1.72E-03
	Carbon sulfide	1.31E-03	5.72E-03	0	0	1.31E-03	5.72E-03
	2-Chloroacetophenone	7.03E-05	3.08E-04	0	0	7.03E-05	3.08E-04
	Chlorobenzene	2.21E-04	9.68E-04	0	0	2.21E-04	9.68E-04
	Chloroform	5.93E-04	2.60E-03	0	0	5.93E-04	2.60E-03
	Cumene	5.32E-05	2.33E-04	0	0	5.32E-05	2.33E-04
	Cyanide	2.51E-02	1.10E-01	0	0	2.51E-02	1.10E-01
	Dichlorobenzene	0	0	1.50E-04	6.57E-04	1.50E-04	6.57E-04
	2,4-Dinitrotoluene	2.81E-06	1.23E-05	0	0	2.81E-06	1.23E-05
	Dimethyl sulfate	4.82E-04	2.11E-03	0	0	4.82E-04	2.11E-03
	Ethylbenzene	9.44E-04	4.14E-03	0	0	9.44E-04	4.14E-03
	Ethyl chloride	4.22E-04	1.85E-03	0	0	4.22E-04	1.85E-03
	Ethylene dichloride	4.02E-04	1.76E-03	0	0	4.02E-04	1.76E-03
	Ethylene dibromide	1.21E-05	5.28E-05	0	0	1.21E-05	5.28E-05
	Formaldehyde	2.41E-03	1.06E-02	9.38E-03	4.11E-02	1.18E-02	5.16E-02
	Hexane	6.73E-04	2.95E-03	2.25E-01	9.86E-01	2.26E-01	9.88E-01
	Isophorone	5.83E-03	2.55E-02	0	0	5.83E-03	2.55E-02
	Methyl bromide	1.61E-03	7.04E-03	0	0	1.61E-03	7.04E-03
	Methyl chloride	5.32E-03	2.33E-02	0	0	5.32E-03	2.33E-02
	Methyl hydrazine	1.71E-03	7.48E-03	0	0	1.71E-03	7.48E-03
	Methyl methacrylate	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
	Methyl tert butyl ether	3.52E-04	1.54E-03	0	0	3.52E-04	1.54E-03
	Methylene chloride	2.91E-03	1.28E-02	0	0	2.91E-03	1.28E-02
	Naphthalene	1.31E-04	5.72E-04	0	0	1.31E-04	5.72E-04
	Phenol	1.61E-04	7.04E-04	0	0	1.61E-04	7.04E-04
	Propionaldehyde	3.82E-03	1.67E-02	0	0	3.82E-03	1.67E-02
	Tetrachlorotheylene	4.32E-04	1.89E-03	0	0	4.32E-04	1.89E-03
	Toluene	2.41E-03	1.06E-02	4.25E-04	1.86E-03	2.84E-03	1.24E-02
	1,1,1,-Trichloroethane	2.01E-04	8.80E-04	0	0	2.01E-04	8.80E-04
	Styrene	2.51E-04	1.10E-03	0	0	2.51E-04	1.10E-03
	Xylenes	3.72E-04	1.63E-03	0	0	3.72E-04	1.63E-03
	Vinyl acetate	7.63E-05	3.34E-04	0	0	7.63E-05	3.34E-04
	HCl	1.21E+01	5.28E+01	0	0	1.21E+01	5.28E+01
	HF	1.51E+00	6.60E+00	0	0	1.51E+00	6.60E+00
	Antimony	1.81E-04	7.92E-04	0	0	1.81E-04	7.92E-04
	Arsenic	4.12E-03	1.80E-02	2.50E-05	1.10E-04	4.14E-03	1.81E-02
	Beryllium	2.11E-04	9.24E-04	0	0	2.11E-04	9.24E-04
	Cadmium	5.12E-04	2.24E-03	1.38E-04	6.02E-04	6.50E-04	2.85E-03
	Chromium	2.61E-03	1.14E-02	1.75E-04	7.67E-04	2.79E-03	1.22E-02
	Cobalt	1.00E-03	4.40E-03	1.05E-05	4.60E-05	1.01E-03	4.45E-03
	Lead	4.22E-03	1.85E-02	0	0	4.22E-03	1.85E-02
	Manganese	4.92E-03	2.16E-02	4.75E-05	2.08E-04	4.97E-03	2.18E-02
	Mercury	8.34E-04	3.65E-03	3.25E-05	1.42E-04	8.66E-04	3.79E-03
	Nickel	2.81E-03	1.23E-02	2.63E-04	1.15E-03	3.07E-03	1.35E-02
	Selenium	1.31E-02	5.72E-02	0	0	1.31E-02	5.72E-02
TOTAL HAPs		13.68	59.93	0.24	1.03	13.92	60.96

Notes:
[1] Table 10E - Coal Boiler (31B1) Coal Combustion Emissions
[2] Table 10F - Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Scenario 2: Boilers 11B1, 11B2, and 11B3 Firing Natural Gas
Utility Area
Table 10C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Boiler 11B1 [1]		Boiler 11B2 [1]		Boiler 11B3 [1]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	35.00	153.30	35.00	153.30	35.00	153.30	105.00	459.90
CO	10.50	45.99	10.50	45.99	10.50	45.99	31.50	137.97
PM/PM_{10}	0.95	4.16	0.95	4.16	0.95	4.16	2.85	12.48
$PM_{2.5}$	0.95	4.16	0.95	4.16	0.95	4.16	2.85	12.48
SO_2	0.08	0.33	0.08	0.33	0.08	0.33	0.23	0.99
VOC	0.69	3.01	0.69	3.01	0.69	3.01	2.06	9.03
GHGs (as CO_2e)	15,091	66,100	15,091	66,100	15,091	66,100	45,274	198,300
HAPs								
Total POM	6.48E-06	2.84E-05	6.48E-06	2.84E-05	6.48E-06	2.84E-05	1.94E-05	8.51E-05
Benzene	2.63E-04	1.15E-03	2.63E-04	1.15E-03	2.63E-04	1.15E-03	7.88E-04	3.45E-03
Dichlorobenzene	1.50E-04	6.57E-04	1.50E-04	6.57E-04	1.50E-04	6.57E-04	4.50E-04	1.97E-03
Formaldehyde	9.38E-03	4.11E-02	9.38E-03	4.11E-02	9.38E-03	4.11E-02	2.81E-02	1.23E-01
Hexane	2.25E-01	9.86E-01	2.25E-01	9.86E-01	2.25E-01	9.86E-01	6.75E-01	2.96E+00
Naphthalene	7.63E-05	3.34E-04	7.63E-05	3.34E-04	7.63E-05	3.34E-04	2.29E-04	1.00E-03
Toluene	4.25E-04	1.86E-03	4.25E-04	1.86E-03	4.25E-04	1.86E-03	1.28E-03	5.58E-03
Arsenic	2.50E-05	1.10E-04	2.50E-05	1.10E-04	2.50E-05	1.10E-04	7.50E-05	3.29E-04
Cadmium	1.38E-04	6.02E-04	1.38E-04	6.02E-04	1.38E-04	6.02E-04	4.13E-04	1.81E-03
Chromium	1.75E-04	7.67E-04	1.75E-04	7.67E-04	1.75E-04	7.67E-04	5.25E-04	2.30E-03
Cobalt	1.05E-05	4.60E-05	1.05E-05	4.60E-05	1.05E-05	4.60E-05	3.15E-05	1.38E-04
Manganese	4.75E-05	2.08E-04	4.75E-05	2.08E-04	4.75E-05	2.08E-04	1.43E-04	6.24E-04
Mercury	3.25E-05	1.42E-04	3.25E-05	1.42E-04	3.25E-05	1.42E-04	9.75E-05	4.27E-04
Nickel	2.63E-04	1.15E-03	2.63E-04	1.15E-03	2.63E-04	1.15E-03	7.88E-04	3.45E-03
TOTAL HAPs	0.24	1.03	0.24	1.03	0.24	1.03	0.71	3.10

Notes:
[1] Table 10F - Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions

Appendix A: Emissions Calculations
Scenario 3: Boilers 11B1, 11B2, and 11B3 Firing No. 2 Fuel Oil
Utility Area
Table 10D

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Pollutant	Boiler 11B1 [1]		Boiler 11B2 [1]		Boiler 11B3 [1]		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
NO_x	17.86	78.21	17.86	78.21	17.86	78.21	53.57	234.64
CO	4.46	19.55	4.46	19.55	4.46	19.55	13.39	58.66
PM/PM_{10}	2.95	12.91	2.95	12.91	2.95	12.91	8.84	38.72
$PM_{2.5}$	0.74	3.23	0.74	3.23	0.74	3.23	2.21	9.68
SO_2	63.39	277.66	63.39	277.66	63.39	277.66	190.18	832.98
VOC	0.18	0.78	0.18	0.78	0.18	0.78	0.54	2.35
GHGs (as CO_2e)	19,984	87,528	19,984	87,528	19,984	87,528	59,951	262,585
HAPs								
Total POM	2.95E-03	1.29E-02	2.95E-03	1.29E-02	2.95E-03	1.29E-02	8.84E-03	3.87E-02
Formaldehyde	4.29E-02	1.88E-01	4.29E-02	1.88E-01	4.29E-02	1.88E-01	1.29E-01	5.63E-01
Arsenic	5.00E-04	2.19E-03	5.00E-04	2.19E-03	5.00E-04	2.19E-03	1.50E-03	6.57E-03
Beryllium	3.75E-04	1.64E-03	3.75E-04	1.64E-03	3.75E-04	1.64E-03	1.13E-03	4.93E-03
Cadmium	3.75E-04	1.64E-03	3.75E-04	1.64E-03	3.75E-04	1.64E-03	1.13E-03	4.93E-03
Chromium	3.75E-04	1.64E-03	3.75E-04	1.64E-03	3.75E-04	1.64E-03	1.13E-03	4.93E-03
Lead	1.13E-03	4.93E-03	1.13E-03	4.93E-03	1.13E-03	4.93E-03	3.38E-03	1.48E-02
Manganese	7.50E-04	3.29E-03	7.50E-04	3.29E-03	7.50E-04	3.29E-03	2.25E-03	9.86E-03
Mercury	3.75E-04	1.64E-03	3.75E-04	1.64E-03	3.75E-04	1.64E-03	1.13E-03	4.93E-03
Nickel	3.75E-04	1.64E-03	3.75E-04	1.64E-03	3.75E-04	1.64E-03	1.13E-03	4.93E-03
Selenium	1.88E-03	8.21E-03	1.88E-03	8.21E-03	1.88E-03	8.21E-03	5.63E-03	2.46E-02
TOTAL HAPs	0.05	0.23	0.05	0.23	0.05	0.23	0.16	0.68

Notes:
[1] Table 10G - Boilers 11B1, 11B2, and 11B3 No. 2 Fuel Oil Combustion Emissions

Appendix A: Emissions Calculations
Coal Boiler (31B1) Coal Combustion Emissions
Utility Area
Table 10E

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Coal Higher Heating Value (Btu/lb)	11500
Boiler Heat Input (MMBtu/hr) [1]	231
Boiler Coal Usage (tons/hr) [2]	10.043
$PM_{2.5}$:PM_{10} Ratio based on SCC Code for Coal Combustion	0.3485
Hours of Operation (hr/yr)	8760

Pollutant			Emission Factor		Emission Rate	
					lb/hr [3]	tpy [4]
NO_x			0.7	lb/MMBtu [5]	161.70	708.25
CO			10.2	lb/hr [6]	10.20	44.68
PM/PM_{10}			0.05	lb/MMBtu [5]	11.55	50.59
$PM_{2.5}$			0.017	lb/MMBtu [7]	4.03	17.63
SO_2			1.2	lb/MMBtu [5]	277.20	1214.14
VOC			1.1	lb/hr [6]	1.10	4.82
CO_2			6,250	lb/ton coal [8]	16,603	72,722
CH_4			0.04	lb/ton coal [9]	0.11	0.47
N_2O			0.08	lb/ton coal [9]	0.21	0.93
GHGs [10]					16,603	72,723
CO_2e [11]					16,671	73,020
HAPs						
	POM					
		Biphenyl	1.70E-06	lb/ton coal [12]	1.71E-05	7.48E-05
		Acenaphthene	5.10E-07	lb/ton coal [12]	5.12E-06	2.24E-05
		Acenaphthylene	2.50E-07	lb/ton coal [12]	2.51E-06	1.10E-05
		Anthracene	2.10E-07	lb/ton coal [12]	2.11E-06	9.24E-06
		Benzo(a)anthracene	8.00E-08	lb/ton coal [12]	8.03E-07	3.52E-06
		Benzo(a)pyrene	3.80E-08	lb/ton coal [12]	3.82E-07	1.67E-06
		Benzo(b,j,k)fluoranthene	1.10E-07	lb/ton coal [12]	1.10E-06	4.84E-06
		Benzo(h,g,i)perylene	2.70E-08	lb/ton coal [12]	2.71E-07	1.19E-06
		Chrysene	1.00E-07	lb/ton coal [12]	1.00E-06	4.40E-06
		Fluoranthene	7.10E-07	lb/ton coal [12]	7.13E-06	3.12E-05
		Fluorene	9.10E-07	lb/ton coal [12]	9.14E-06	4.00E-05
		Indeno(1,2,3-cd)pyrene	6.10E-08	lb/ton coal [12]	6.13E-07	2.68E-06
		Naphthalene	1.30E-05	lb/ton coal [12]	1.31E-04	5.72E-04
		Phenanathrene	2.70E-06	lb/ton coal [12]	2.71E-05	1.19E-04
		Pyrene	3.30E-07	lb/ton coal [12]	3.31E-06	1.45E-05
		5-Methyl chrysene	2.20E-08	lb/ton coal [12]	2.21E-07	9.68E-07
		TOTAL POM			2.08E-04	9.13E-04
	Acetaldehyde		5.70E-04	lb/ton coal [13]	5.72E-03	2.51E-02
	Acetophenone		1.50E-05	lb/ton coal [13]	1.51E-04	6.60E-04
	Acrolein		2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
	Benzene		1.30E-03	lb/ton coal [13]	1.31E-02	5.72E-02
	Benzyl chloride		7.00E-04	lb/ton coal [13]	7.03E-03	3.08E-02
	Bis(2-ethylhexyl)phthalate		7.30E-05	lb/ton coal [13]	7.33E-04	3.21E-03
	Bromoform		3.90E-05	lb/ton coal [13]	3.92E-04	1.72E-03
	Carbon sulfide		1.30E-04	lb/ton coal [13]	1.31E-03	5.72E-03
	2-Chloroacetophenone		7.00E-06	lb/ton coal [13]	7.03E-05	3.08E-04
	Chlorobenzene		2.20E-05	lb/ton coal [13]	2.21E-04	9.68E-04
	Chloroform		5.90E-05	lb/ton coal [13]	5.93E-04	2.60E-03
	Cumene		5.30E-06	lb/ton coal [13]	5.32E-05	2.33E-04
	Cyanide		2.50E-03	lb/ton coal [13]	2.51E-02	1.10E-01
	2,4-Dinitrotoluene		2.80E-07	lb/ton coal [13]	2.81E-06	1.23E-05
	Dimethyl sulfate		4.80E-05	lb/ton coal [13]	4.82E-04	2.11E-03
	Ethylbenzene		9.40E-05	lb/ton coal [13]	9.44E-04	4.14E-03
	Ethyl chloride		4.20E-05	lb/ton coal [13]	4.22E-04	1.85E-03
	Ethylene dichloride		4.00E-05	lb/ton coal [13]	4.02E-04	1.76E-03
	Ethylene dibromide		1.20E-06	lb/ton coal [13]	1.21E-05	5.28E-05
	Formaldehyde		2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
	Hexane		6.70E-05	lb/ton coal [13]	6.73E-04	2.95E-03
	Isophorone		5.80E-04	lb/ton coal [13]	5.83E-03	2.55E-02
	Methyl bromide		1.60E-04	lb/ton coal [13]	1.61E-03	7.04E-03
	Methyl chloride		5.30E-04	lb/ton coal [13]	5.32E-03	2.33E-02
	Methyl hydrazine		1.70E-04	lb/ton coal [13]	1.71E-03	7.48E-03
	Methyl methacrylate		2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
	Methyl tert butyl ether		3.50E-05	lb/ton coal [13]	3.52E-04	1.54E-03
	Methylene chloride		2.90E-04	lb/ton coal [13]	2.91E-03	1.28E-02
	Phenol		1.60E-05	lb/ton coal [13]	1.61E-04	7.04E-04
	Propionaldehyde		3.80E-04	lb/ton coal [13]	3.82E-03	1.67E-02
	Tetrachlorotheylene		4.30E-05	lb/ton coal [13]	4.32E-04	1.89E-03
	Toluene		2.40E-04	lb/ton coal [13]	2.41E-03	1.06E-02
	1,1,1,-Trichloroethane		2.00E-05	lb/ton coal [13]	2.01E-04	8.80E-04
	Styrene		2.50E-05	lb/ton coal [13]	2.51E-04	1.10E-03
	Xylenes		3.70E-05	lb/ton coal [13]	3.72E-04	1.63E-03
	Vinyl acetate		7.60E-06	lb/ton coal [13]	7.63E-05	3.34E-04
	HCl		1.20E+00	lb/ton coal [14]	1.21E+01	5.28E+01
	HF		1.50E-01	lb/ton coal [14]	1.51E+00	6.60E+00
	Antimony		1.80E-05	lb/ton coal [15]	1.81E-04	7.92E-04
	Arsenic		4.10E-04	lb/ton coal [15]	4.12E-03	1.80E-02
	Beryllium		2.10E-05	lb/ton coal [15]	2.11E-04	9.24E-04
	Cadmium		5.10E-05	lb/ton coal [15]	5.12E-04	2.24E-03
	Chromium		2.60E-04	lb/ton coal [15]	2.61E-03	1.14E-02
	Cobalt		1.00E-04	lb/ton coal [15]	1.00E-03	4.40E-03
	Lead		4.20E-04	lb/ton coal [15]	4.22E-03	1.85E-02
	Manganese		4.90E-04	lb/ton coal [15]	4.92E-03	2.16E-02
	Mercury		8.30E-05	lb/ton coal [15]	8.34E-04	3.65E-03
	Nickel		2.80E-04	lb/ton coal [15]	2.81E-03	1.23E-02
	Selenium		1.30E-03	lb/ton coal [15]	1.31E-02	5.72E-02
TOTAL HAPs					13.68	59.93

Notes:
[1] Design value
[2] Coal Usage (tons/hr) = Heat Input (MMBtu/hr) x 1000000 Btu/MMBtu÷ [Coal Higher Heating Value (Btu/lb) x 2000 lb/ton]
[3] a) Emission Rate (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)
b) Emission Rate (lb/hr) = Emission Factor (lb/MMscf) ÷ Natural Gas Higher Heating Value (Btu/scf) x Heat Input (MMBtu/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] The lb/MMBtu emission rate is based on a BACT determination.
[6] The lb/hr emission rate is based on a BACT determination.
[7] PM/PM_{10} Emission Factor (lb/MMBtu) x $PM_{2.5}$:PM_{10} Ratio
[8] AP-42, Table 1.1-20, Page 1.1-42, low-volatile bituminous coal
[9] AP-42, Table 1.1-19, Page 1.1-40, PC-fired, dry bottom, tangentially fired
[10] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[11] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[12] AP-42, Table 1.1-13, Page 1.1-33
[13] AP-42, Table 1.1-14, Page 1.1-34
[14] AP-42, Table 1.1-15, Page 1.1-36
[15] AP-42, Table 1.1-18, Page 1.1-39

Appendix A: Emissions Calculations
Boilers 11B1, 11B2, and 11B3 Natural Gas Combustion Emissions
Utility Area
Table 10F

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

The following calculations are for each boiler:

Natural Gas Higher Heating Value (Btu/scf)	1000
Boiler Heat Input (MMBtu/hr) [1]	125
Boiler Natural Gas Usage (MMscf/hr) [2]	0.125
Hours of Operation (hr/yr)	8760

Pollutant	Emission Factor		Emission Rate	
			lb/hr [3]	tpy [4]
NO_x	280	lb/MMscf [5]	35.00	153.30
CO	84	lb/MMscf [5]	10.50	45.99
PM/PM_{10}	7.6	lb/MMscf [5]	0.95	4.16
$PM_{2.5}$	7.6	lb/MMscf [5]	0.95	4.16
SO_2	0.6	lb/MMscf [6]	0.08	0.33
VOC	5.5	lb/MMscf [6]	0.69	3.01
CO_2	120,000	lb/MMscf [6]	15,000	65,700
CH_4	2.3	lb/MMscf [6]	0.29	1.26
N_2O	2.2	lb/MMscf [6]	0.28	1.20
GHGs [7]			15,001	65,702
CO_2e [8]			15,091	66,100
HAPs				
POM				
2-Methylnaphthalene	2.40E-05	lb/MMscf [9]	3.00E-06	1.31E-05
Fluoranthene	3.00E-06	lb/MMscf [9]	3.75E-07	1.64E-06
Fluorene	2.80E-06	lb/MMscf [9]	3.50E-07	1.53E-06
Phenanathrene	1.70E-05	lb/MMscf [9]	2.13E-06	9.31E-06
Pyrene	5.00E-06	lb/MMscf [9]	6.25E-07	2.74E-06
TOTAL POM			6.48E-06	2.84E-05
Benzene	2.10E-03	lb/MMscf [9]	2.63E-04	1.15E-03
Dichlorobenzene	1.20E-03	lb/MMscf [9]	1.50E-04	6.57E-04
Formaldehyde	7.50E-02	lb/MMscf [9]	9.38E-03	4.11E-02
Hexane	1.80E+00	lb/MMscf [9]	2.25E-01	9.86E-01
Naphthalene	6.10E-04	lb/MMscf [9]	7.63E-05	3.34E-04
Toluene	3.40E-03	lb/MMscf [9]	4.25E-04	1.86E-03
Arsenic	2.00E-04	lb/MMscf [10]	2.50E-05	1.10E-04
Cadmium	1.10E-03	lb/MMscf [10]	1.38E-04	6.02E-04
Chromium	1.40E-03	lb/MMscf [10]	1.75E-04	7.67E-04
Cobalt	8.40E-05	lb/MMscf [10]	1.05E-05	4.60E-05
Manganese	3.80E-04	lb/MMscf [10]	4.75E-05	2.08E-04
Mercury	2.60E-04	lb/MMscf [10]	3.25E-05	1.42E-04
Nickel	2.10E-03	lb/MMscf [10]	2.63E-04	1.15E-03
TOTAL HAPs			0.24	1.03

Notes:
[1] Design value
[2] Natural Gas Usage (MMscf/hr) = Heat Input (MMBtu/hr) ÷ Natural Gas Higher Heating Value (Btu/scf)
[3] Emission Rate (lb/hr) = Emission Factor (lb/MMscf) x Boiler Natural Gas Usage (MMscf/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr) ÷ 2000 lb/ton
[5] AP-42, Table 1.4-1, Page 1.4-5. Values for Large Boilers - Uncontrolled, Pre-NSPS used.
[6] AP-42, Table 1.4-2, Page 1.4-6, N_2O uncontrolled
[7] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[8] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[9] AP-42, Table 1.4-3, Page 1.4-7, 8
[10] AP-42, Table 1.4-4, Page 1.4-9

Appendix A: Emissions Calculations
Boilers 11B1, 11B2, and 11B3 No. 2 Fuel Oil Combustion Emissions
Utility Area
Table 10G

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

The following calculations are for each boiler:

No. 2 Fuel Oil Higher Heating Value (Btu/gal)	140000
Boiler Heat Input (MMBtu/hr) [1]	125
Boiler No. 2 Fuel Oil Usage (10^3 gal/hr) [2]	0.893
$PM_{2.5}$:PM_{10} Ratio based on SCC Code for Distilate Oil Combustion	0.25
Hours of Operation (hr/yr)	8760

Pollutant		Emission Factor		Emission Rate	
				lb/hr [3]	tpy [4]
NO_x		20	lb/10^3 gal [5]	17.86	78.21
CO		5	lb/10^3 gal [5]	4.46	19.55
PM/PM_{10}		3.3	lb/10^3 gal [6]	2.95	12.91
$PM_{2.5}$		0.83	lb/10^3 gal [7]	0.74	3.23
SO_2		71	lb/10^3 gal [5]	63.39	277.66
VOC		0.2	lb/10^3 gal [8]	0.18	0.78
CO_2		22,300	lb/10^3 gal [9]	19,911	87,209
CH_4		0.052	lb/10^3 gal [8]	0.05	0.20
N_2O		0.26	lb/10^3 gal [10]	0.23	1.02
GHGs [11]				19,911	87,210
CO_2e [12]				19,984	87,528
HAPs					
	POM	3.30E-03	lb/10^3 gal [10]	2.95E-03	1.29E-02
	Formaldehyde	4.80E-02	lb/10^3 gal [10]	4.29E-02	1.88E-01
	Arsenic	4.00E+00	lb/10^{12} Btu [13]	5.00E-04	2.19E-03
	Beryllium	3.00E+00	lb/10^{12} Btu [13]	3.75E-04	1.64E-03
	Cadmium	3.00E+00	lb/10^{12} Btu [13]	3.75E-04	1.64E-03
	Chromium	3.00E+00	lb/10^{12} Btu [13]	3.75E-04	1.64E-03
	Lead	9.00E+00	lb/10^{12} Btu [13]	1.13E-03	4.93E-03
	Manganese	6.00E+00	lb/10^{12} Btu [13]	7.50E-04	3.29E-03
	Mercury	3.00E+00	lb/10^{12} Btu [13]	3.75E-04	1.64E-03
	Nickel	3.00E+00	lb/10^{12} Btu [13]	3.75E-04	1.64E-03
	Selenium	1.50E+01	lb/10^{12} Btu [13]	1.88E-03	8.21E-03
TOTAL HAPs				0.05	0.21

Notes:
[1] Design value
[2] Fuel Oil Usage (10^3 gal/hr) = Heat Input (MMBtu/hr) ÷ No. 2 Fuel Oil Higher Heating Value (Btu/gal) x 1000
[3] Emission Rate (lb/hr) = Emission Factor (lb/10^3 gal) x Boiler No.2 Fuel Oil Usage (10^3 gal/hr)
[4] Emission Rate (tpy) = Emission Rate (lb/hr) x Hours of Operation (hr/yr)÷ 2000 lb/ton
[5] AP-42, Table 1.3-1, Page 1.3-12. Values for Boilers >100 Mmbtu/hr used.
SO_2 emission factor is derived from 142S, where S is 0.5% sulfur.
[6] This emission factor is the summation of the factor for filterable particulate (2.0 lb/10^3 gal)
for distillate fired units found in AP-42, Table 1.3-1, Page 1.3-12
plus the factor for condensible particulate (1.3 lb/10^3 gal)
for distillate fired units found in AP-42, Table 1.3-2, Page 1.3-13.
[7] PM/PM_{10} Emission Factor (lb/10^3 gal) x $PM_{2.5}$:PM_{10} Ratio
[8] AP-42, Table 1.3-3, Page 1.3-14, industrial boiler, distillate oil fired.
[9] AP-42, Table 1.3-12, Page 1.3-24.
[10] AP-42, Table 1.3-8, Page 1.3-20, industrial boiler, distillate oil fired. Mid-range for formaldehyde used.
[11] GHG Emissions = CO_2 Emissions + CH_4 Emissions + N_2O Emissions
[12] CO_2e Emissions = (CO_2 Emissions x 1) + (CH_4 Emissions x 21) + (N_2O Emissions x 310)
[13] AP-42, Table 1.3-10, Page 1.3-22.

Appendix A: Emissions Calculations
Digester Emissions Summary
Wastewater Treatment Anaerobic Digester
Table 11A

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Unit Description	Ref.	Emission Rates (TPY)																
										HAPs								
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	GHGs (as CO_2e)	Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane
Biogas Flare	[1]	0	0	0	39.41	9.53	51.86	19.62	0	0	0	0	0	0	0	0	0	0
Emergency Generator	[2]	0.17	0.17	0.17	0.16	2.46	0.53	0.20	90.73	0	negl.	negl.	0	0	0	0	0	0
TOTAL		0.17	0.17	0.17	39.58	11.99	52.39	19.82	90.73	0.00	negl.	negl.	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
[1] Table 11B - Biogas Flare Process Emission Calculations
[2] Table 11C - Reciprocating Internal Combustion Engines - Diesel Fuel

Appendix A: Emissions Calculations
Biogas Flare Process Emission Calculations
Wastewater Treatment Anaerobic Digester
Table 11B

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element		Data	Value		Reference/Calculation
Operating Hours		[A]	8,760	hr/yr	design value
Biogas Production Rate		[B]	32	MMBtu/hr	design value
Biogas Higher Heating Value		[C]	650	Btu/scf	design value
Biogas Temperature		[D]	90	^oF	design value
		[E]	550	^oR	[D] + 460^oF
Biogas Flow Rate		[F]	855	acfm	design value
		[G]	821	scfm	[F] x [L] ÷ [E]
Molecular Weights of Pollutants					
	H_2S	[H]	34	lb/lb-mol	
	SO_2	[I]	64	lb/lb-mol	
Gas Constant		[J]	385.3	scf/lb-mol	molar volume at standard conditions
Standard Temperature		[K]	68	^oF	
		[L]	528	^oR	[K] + 460^oF
Uncontrolled H_2S Emission Rate		[M]	11000	ppmv	engineering estimate
Scrubber H_2S Removal Efficiency		[N]	90%		design value
Controlled Emission Rates					
	H_2S	[O]	1100	ppmv	[M] x (1 - [N])
		[P]	4.78	lb/hr	[O] x [G] x [H] x 60 min/hr ÷ ([J] x 1,000,000)
		[Q]	0.1406	lb-mol/hr	[P] ÷ [H]
Calculate Emissions from Flare Using the Following Formula: $2H_2S + 3O_2$ ---> $2SO_2 + 2H_2O$					
	SO_2	[R]	9.00	lb/hr	[Q] x [I]
		[S]	39.41	tpy	[R] x [A] ÷ 2000 lb/ton
		[T]	0.28	lb/MMBtu	[R] ÷ [B]
		[U]	1.75E-04	lb/cf	[R] ÷ (60 min/hr x [F])
Flare Emission Factors					
	NO_x	[V]	0.068	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
	CO	[W]	0.37	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
	VOC	[X]	0.14	lb/MMBtu	AP-42, Table 13.5-1, Page 13.5-4
Calculate Emissions from Biogas Combustion in Flare					
	NO_x	[Y]	2.18	lb/hr	[B] x [V]
		[Z]	9.53	tpy	[Y] x [A] ÷ 2000 lb/ton
	CO	[AA]	11.84	lb/hr	[B] x [W]
		[BB]	51.86	tpy	[AA] x [A] ÷ 2000 lb/ton
	VOC	[CC]	4.48	lb/hr	[B] x [X]
		[DD]	19.62	tpy	[CC] x [A] ÷ 2000 lb/ton

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Maximum Input Rate (<=4.2 MMBtu/hr)
Wastewater Treatment Anaerobic Digester
Table 11C

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	317
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	158,500

	Pollutant											
	PM*	PM_{10}*	$PM_{2.5}$*	SO_2	NO_x	VOC	CO	CO_2**	CH_4**	N_2O**	GHGs	CO_2e
Emission Factor (lb/hp-hr)	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	1.1411	4.63E-05	9.26E-06	---	---
Potential Emissions (tons/yr)	0.17	0.17	0.17	0.16	2.46	0.20	0.53	90.43	0.004	0.001	90.43	90.73

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor (lb/hp-hr)****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emissions (tons/yr)	5.18E-04	2.27E-04	1.58E-04	2.17E-05	6.55E-04	4.25E-04	5.13E-05	9.32E-05
							Potential Emissions of Total HAPs (tons/yr)	**2.15E-03**

Notes:
* PM and $PM_{2.5}$ emission factors are assumed to be equivalent to PM_{10} emission factors.
No information was given regarding which method was used to determine the factor or the fraction of PM_{10} which is condensable.
** Emission factors in lb/hp-hr were calculated using emission factors in kg/MMBtu for Distillate Fuel Oil #2 and a brake specific fuel consumption of 7,000 Btu/hp-hr (Tables C-1 and C-2 to Subpart C of 40 CFR 98).
*** PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
**** Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Emissions Calculations
Tate & Lyle, Sagamore
Fugitive Emissions Summary
Table FE1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Emission Unit Description	Ref.	Emission Rates (TPY)															
									HAPs								
		PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	Propylene Oxide	Acet-aldehyde	Form-aldehyde	Methanol	Chloroform	HCl	HF	Cyanide	n-Hexane
Building Fugitives	[1]	0	0	0	9.00	0	0	15.86	0	1.25	0	0	0	0	0	0	0
WWTP Fugitives	[2]	0	0	0	0	0	0	9.05	0	3.23	0	0	0	0	0	0	0
Paved Road Fugitives	[3]	27.52	5.50	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck Loadout Fugitives	[4]	2.14	0.52	0.10	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		29.66	6.02	1.45	9.00	0.00	0.00	24.92	0.00	4.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
[1] Table FE2 - Building Fugitive Emission Calculations
[2] Table FE4 - Wastewater Treatment Plant Fugitive Emission Calculations
[3] Table FE5 - Paved Roads Fugitive Emission Calculations
[4] Table FE7 - Corn Unloading & Feed Loadout Fugitive Emission Calculations

Appendix A: Emissions Calculations
Building Fugitive Emission Calculations
Fugitive Emissions
Table FE2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Building/Structure		Building Dimensions			Building Volume (ft^3) [2]	Building Free Volume (ft^3) [3]	Air Temp. (F)	Actual Airflow (acf/hr) [4]	Standard Airflow (scf/hr) [5]	Emission Rates													
										Ethanol				Acetaldehyde				VOC		SO2			
		Length (ft)	Width (ft)	Height (ft)						Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]	Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]	lb/hr [9]	tons/yr [8]	Molecular Weight	ppm [6]	lb/hr [7]	tons/yr [8]
Steephouse																							
	14 Building	169	47	60	476580																		
	14 Building Annex	60	50	60	180000																		
	Total				656580	492435	70	2954610	2742770	46	5	1.76	7.70	44	0.1	0.03	0.15	1.79	7.84	64	3	1.47	6.42
Millhouse - 15 Building																							
	Area I	66	66	80	348480																		
	Area II	53	66	60	209880																		
	Area III	40	66	40	105600																		
	Total				663960	497970	70	2987820	2773599	46	1	0.36	1.56	44	0.1	0.03	0.15	0.39	1.71	64	1	0.49	2.17
Refinery																							
	Building 18	144	144	40	829440																		
	Building 18A	106	75	40	318000																		
	Building 18B	50	50	40	100000																		
	Building 18C	34	44	40	59840																		
	Total				1307280	980460	70	5882760	5460977	46	1	0.70	3.06	44	0.1	0.07	0.29	0.77	3.36	64	0.02	0.02	0.09
Feedhouse - 21 Building																							
	Area I	156	19	40	118560																		
	Area II	156	25	80	312000																		
	Area III	156	44	80	549120																		
	Total				979680	734760	70	4408560	4092475	46	1	0.52	2.30	44	0.3	0.15	0.66	0.67	2.96	64	0.1	0.07	0.32
TOTAL												3.34	14.61			0.29	1.25	3.62	15.86			2.05	9.00

Notes:

[1] Basis for estimating fugitive air flow from buildings:
OSHA Laboratory Guidelines (29 CFR 1910.1450, Appendix A) recommends 4-12 room air changes per hour.
National Fire Protection Association Guide for vegetable oil extraction plants (NFPA 36 - Standard for Solvent Extraction Plants - 1977) recommends at Section 5-3.1 that
"Enclosed plants shall have sufficient ventilation to change the volume of air at least six times per hour."
Since vegetable oil extraction is associated with corn wet milling, a factor of six air changes per hour is deemed appropriate for fugitive emission calculations.

[2] Building Volume (ft^3) = Length (ft) x Width (ft) x Height (ft

[3] Building Free Volume (ft^3) = Building Volume (ft^3) x 0.75
Basis for free volume is that 25% of buildings are occupied by equipment and 75% are open air space.

[4] Actual Airflow (acf/hr) = Building Free Volume (f^3) x 6 Air Changes per Hour (see Note [1]

[5] Standard Airflow (scf/hr) = Actual Airflow (acf/hr) x [492÷ (460 + Air Temp.)]
Standard temperature used: 32 F (460 K)

[6] Table FE3 - Basis for Concentration Values Used in Building Fugitive Emission Calculations

[7] Emission Rate (lb/hr) = (ppm÷ 1000000) x Standard Airflow (scf/hr) x Molecular Weight (lb/lb-mol)÷ 359 scf/lb-mol

[8] Emission Rate (tons/yr) = Emission Rate (lb/hr) x 8760 hr/y÷ 2000 lb/ton

[9] VOC Emission Rate (lb/hr) = Ethanol Emission Rate (lb/hr) + Acetaldehyde Emission Rate (lb/hr)

Appendix A: Emissions Calculations
Basis for Concentration Values Used in Building Fugitive Emission Calculations
Fugitive Emissions
Table FE3

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Sampling Location		Test Date	Tester	Emission Rate (ppm)					
				Ethanol [3]		Acetaldehyde [3]		Sulfur Dioxide [3]	
Steephouse									
	1st Floor	7/1/08	[1]	0.7	*	0.05	*	2.5	
		8/13/08	[2]	0.372		n/d	*	1	
		8/14/08	[2]	0.365		n/d	*	1	
	2nd Floor	7/1/08	[1]	0.6	*	0.08	*	0.061	
		8/13/08	[2]	3.097		n/d	*	1	
		8/14/08	[2]	0.865		n/d	*	1	
	Maximum Value			3.097		0.08		2.5	
	Value Used			5		0.1		3	
Millhouse									
	1st Floor	7/1/08	[1]	0.6	*	0.06	*	0.12	
		8/13/08	[2]	0.508		n/d	*	n/d	*
		8/14/08	[2]	0.625		n/d	*	n/d	*
	2nd Floor	7/1/08	[1]	0.7	*	0.06	*	0.23	
		8/13/08	[2]	0.329		n/d	*	1	
		8/14/08	[2]	0.435		n/d	*	n/d	*
	Maximum Value			0.7		0.06		1	
	Value Used			1		0.1		1	
Refinery									
	1st Floor (Separator Feed Tank)	7/1/08	[1]	0.6	*	0.05	*	0.014	
	1st Floor (Tank Room)	7/1/08	[1]	0.6	*	0.05	*	0.0066	
		8/13/08	[2]	n/d	*	n/d	*	n/d	*
		8/14/08	[2]	0.023		n/d	*	n/d	*
	2nd Floor	7/1/08	[1]	0.7	*	0.05	*	0.0075	
		8/13/08	[2]	n/d	*	n/d	*	n/d	*
		8/14/08	[2]	0.069		n/d	*	n/d	*
	Maximum Value			0.7		0.05		0.014	
	Value Used			1		0.1		0.02	
Feedhouse									
	1st Floor	7/1/08	[1]	0.9	*	0.08	*	0.092	
		8/13/08	[2]	0.75		0.252		n/d	*
		8/14/08	[2]	0.08		n/d	*	n/d	*
	2nd Floor	7/16/08	[1]	0.4	*	0.07		0.049	
	Maximum Value			0.9		0.252		0.092	
	Value Used			1		0.3		0.1	

Notes:
[1] Certified Environmental Management, LTD
[2] Tate & Lyle internal testing
[3] An asterisk (*) indicates a non-detect value. The value listed is the detection limit of the instrument.

Appendix A: Emissions Calculations
Wastewater Treatment Plant Fugitive Emission Calculations
Fugitive Emissions
Table FE4

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Data Element			Data	Value		Reference/Calculation
Operating Hours			[A]	8,760	hr/yr	design value
Waste Treatment Surface Areas						
	South Aeration Basin - Water Area					
		Length	[B]	187.50	ft	design value
		Width	[C]	127.50	ft	design value
		Surface Area	[D]	23906.25	ft^2	[B] x [C]
	South Aeration Basin Corner Area					
		Length	[E]	107.50	ft	design value
		Width	[F]	107.50	ft	design value
		Diameter	[G]	107.50	ft	design value
		Surface Area	[H]	2479.99	ft^2	([E] x [F]) - (π x [G] ^{2} ÷ 4)
	South Aeration Basin - Total Water Area		[I]	21426.26	ft^2	[D] - [H]
	North Aeration Basin - Total Water Area		[J]	21426.26	ft^2	[I]
	Clarifier					
		Diameter	[K]	90	ft	design value
		Surface Area	[L]	6361.73	ft^2	π x [K] ^{2} ÷ 4
	Total Surface Area		[M]	49214.24	ft^2	[I] + [J] + [L]
Emission Factors						
	Acetaldehyde		[N]	1.50E-05	$lb/ft^2/hr$	This is the highest of three analyses for East EQ tank at the Decatur Plant used. Overestimates since a BVF is used for equalization at the Sagamore Plant. The East EQ rate expected to be the highest VOC emission rate for any waste treatment tank at either the Sagamore or Decatur Plants.
	Ethanol		[O]	2.70E-05	$lb/ft^2/hr$	
Emission Rates						
	Acetaldehyde		[P]	0.74	lb/hr	[M] x [N]
			[Q]	3.23	tpy	[P] x [A] ÷ 2000 lb/ton
	Ethanol		[R]	1.33	lb/hr	[M] x [O]
			[S]	5.82	tpy	[R] x [A] ÷ 2000 lb/ton
	VOC		[T]	2.07	lb/hr	[P] + [R]
			[U]	9.05	tpy	[Q] + [S]

Appendix A: Emissions Calculations
Paved Road Fugitive Emission Calculations
Fugitive Emissions
Table FE5

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Type of Truck	Status	Number of Trips per Day [1]	Vehicle Weight (tons) [2]	VMT per Trip (miles) [3]	Weighted Vehicle Weight (tons) [4]	VMT per Day (miles) [5]	Average Vehicle Weight (tons) [6]	PM Emission Factor (lb/VMT) [7]	PM Emission Rate (lb/day) [8]	PM Emission Rate (tons/yr) [9]	PM_{10} Emission Factor (lb/VMT) [7]	PM_{10} Emission Rate (lb/day) [8]	PM_{10} Emission Rate (tons/yr) [9]	$PM_{2.5}$ Emission Factor (lb/VMT) [7]	$PM_{2.5}$ Emission Rate (lb/day) [8]	$PM_{2.5}$ Emission Rate (tons/yr) [9]
Corn	Full	98.2	40	0.665	3928.00	65.299										
	Empty	98.2	12.5	0.494	1227.50	48.468										
Feed/Germ/Meal	Full	54.5	40	0.494	2180.00	26.899										
	Empty	54.5	12.5	0.665	681.25	36.240										
Syrup	Full	0.2	40	0.852	8.00	0.170										
	Empty	0.2	15	0.274	3.00	0.055										
Bulk Starch	Full	2.9	35	0.852	101.50	2.471										
	Empty	2.9	15	0.274	43.50	0.795										
Starch Warehouse	Full	64.6	20	0.221	1292.00	14.290	22.45	0.6354	150.81	27.52	0.1271	30.16	5.50	0.0312	7.40	1.35
	Empty	64.6	5	0.323	323.00	20.873										
Chemicals	Full	5.4	40	0.557	216.00	3.006										
	Empty	5.4	15	0.800	81.00	4.320										
Coal	Full	8.5	40	0.441	340.00	3.753										
	Empty	8.5	12.5	0.852	106.25	7.243										
Ash	Full	0.8	40	0.757	32.00	0.606										
Waste	Full	2.2	20	0.685	44.00	1.507										
	Empty	2.2	12.5	0.609	27.50	1.339										
TOTAL		473.80			10634.50	237.333										

Notes:

[1] Number of truck loads, provided by D. Copeland
[2] Data taken from Iowa fugitive emission estimates and data from Sagamore Main Gate.
[3] Table FE6 - Calculation of Vehicle Miles Travelled (VMT) per Truck Type
[4] Weighted Vehicle Weight (tons) = Vehicle Weight (tons) x Number of Trips per Day
[5] VMT per Day (miles) = VMT per Trip (miles) x Number of Trips per Day
[6] Average Vehicle Weight (tons) = Σ [Weighted Vehicle Weight (tons)]÷ Σ (Number of Trips per Day)
[7] Emission factor equation taken from AP-42, Section 13.2.1.3, eq. 2 (published 1/11):

$$E = (k) \times (sL^{0.91}) \times (W^{1.02}) \times (1 - P \div (4 \times N))$$

where:

E = Emission Rate (lb/VMT)
k = 0.011 lb/VMT for PM (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
k = 0.0022 lb/VMT for PM_{10} (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
k = 0.00054 lb/VMT for $PM_{2.5}$ (Table 13.2-1.1 Particle Size Multipliers for Paved Road Equation)
sL = Silt Loading = 2.9 g/m^2 (AP-42, Section 13.2.1, Table 13.2.1-3 (Corn Wet Mills))
W = Average Vehicle Weight (tons)
P = Number of "Wet" Days with at least 0.254 mm (0.01 in) of Precipitation during the Averaging Period = 120 (AP-42, Section 13.2.1, Figure 13.2.1-2 (Lafayette, IN))
N = Number of Days in the Averaging Period = 365

[8] Emission Rate (lb/day) = Emission Factor (lb/VMT) x Σ [VMT per Day (miles)]
[9] Emission Rate (tons/yr) = Emission Rate (lb/day) x 365 days/yr ÷ 2000 lb/ton

Appendix A: Emissions Calculations
Vehicle Miles Travelled (VMT) per Truck Type
Fugitive Emissions
Table FE6

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Type of Truck	Status	Segment	Segment Length		Status	Segment	Segment Length	
			feet	miles [1]			feet	miles [1]
Corn	Full	R1	348	0.066	Empty	R10	702	0.133
		R2	518	0.098		R14	668	0.127
		R3	582	0.110		R15	200	0.038
		R4	883	0.167		R2	518	0.098
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		---	---	---
		Total	3,511	0.665		Total	2,606	0.494
Feed/Meal/Germ	Full	R10	702	0.133	Empty	R1	348	0.066
		R14	668	0.127		R2	518	0.098
		R15	200	0.038		R3	582	0.110
		R2	518	0.098		R4	883	0.167
		R2	518	0.098		R5	882	0.167
		---	---	---		R9	298	0.056
		Total	2,606	0.494		Total	3,511	0.665
Syrup	Full	R4	883	0.167	Empty	R1	348	0.066
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		R3	582	0.110
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	4,499	0.852		Total	1,448	0.274
Bulk Starch	Full	R4	883	0.167	Empty	R1	348	0.066
		R5	882	0.167		R2	518	0.098
		R9	298	0.056		R3	582	0.110
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	4,499	0.852		Total	1,448	0.274
Starch Warehouse	Full	R12	130	0.025	Empty	R1	348	0.066
		R13	172	0.033		R2	518	0.098
		R2	518	0.098		R13	172	0.033
		R1	348	0.066		R14	668	0.127
		Total	1,168	0.221		Total	1,706	0.323
Chemicals [2]	Full	R1	348	0.066	Empty	R7	227	0.043
		R2	518	0.098		R6	381	0.072
		R3	582	0.110		R5	882	0.167
		R4	883	0.167		R9	298	0.056
		R6	381	0.072		R10	702	0.133
		R7	227	0.043		R14	668	0.127
		---	---	---		R15	200	0.038
		---	---	---		R2	518	0.098
		---	---	---		R1	348	0.066
		Total	2,939	0.557		Total	4,224	0.800
Coal	Full	R1	348	0.066	Empty	R4	883	0.167
		R2	518	0.098		R5	882	0.167
		R3	582	0.110		R9	298	0.056
		R4	883	0.167		R10	702	0.133
		---	---	---		R14	668	0.127
		---	---	---		R15	200	0.038
		---	---	---		R2	518	0.098
		---	---	---		R1	348	0.066
		Total	2,331	0.441		Total	4,499	0.852
Ash [3]	Full	R6	381	0.072	Empty	---	---	---
		R5	882	0.167		---	---	---
		R9	298	0.056		---	---	---
		R10	702	0.133		---	---	---
		R14	668	0.127		---	---	---
		R15	200	0.038		---	---	---
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	3,997	0.757		Total	0	0.000
Waste [4]	Full	R5	882	0.167	Empty	R1	348	0.066
		R9	298	0.056		R2	518	0.098
		R10	702	0.133		R3	582	0.110
		R14	668	0.127		R4	883	0.167
		R15	200	0.038		R5	882	0.167
		R2	518	0.098		---	---	---
		R1	348	0.066		---	---	---
		Total	3,616	0.685		Total	3,213	0.609

Notes:
[1] Segment Length (miles) = Segment Length (ft) ÷ 5280 ft/mile
[2] Assume all chemical trucks have identical routes.
[3] Assume ash is hauled by incoming coak trucks; therefore, there is no empty ash truck route.
[4] Assume all waste trucks have identical routes.

Appendix A: Emissions Calculations
Corn Unloading & Feed Loadout Fugitive Emission Calculations
Fugitive Emissions
Table FE7

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

Type of Activity	Material Transferred (tons/day)	PM				PM_{10}				$PM_{2.5}$			
		Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]	Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]	Emission Factor (lb/ton)	Uncontrolled Emissions (lb/day) [5]	Controlled Emissions (lb/day) [6]	Controlled Emissions (tons/yr) [7]
Corn Unloading - Straight Trucks [1] [3]	112	0.18	20.16	2.02	0.37	0.059	6.61	0.66	0.12	0.010	1.12	0.11	0.02
Corn Unloading - Hopper Trucks [2] [3]	2688	0.035	94.08	9.41	1.72	0.0078	20.97	2.10	0.38	0.0013	3.49	0.35	0.06
Feed/Meal/Germ Truck Loadout [4]	952	0.0033	3.14	0.31	0.06	0.0008	0.76	0.08	0.01	0.0008	0.76	0.08	0.01
TOTAL					2.14				0.52				0.10

Notes:

[1] Emission factors taken from AP-42 Table 9.9.1-1 (Straight Truck: SCC 3-02-005-51). If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. Of this total, 5 of the trucks are straight trucks. The remaining trucks are hopper trucks.

[2] Emission factors taken from AP-42 Table 9.9.1-1 (Hopper Truck: SCC 3-02-005-52). If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. If all corn is assumed to be received by truck, this equates to approximately 125 trucks per day, if each truck is approximately 800 bushels. Of this total, 120 of the trucks are hopper trucks. The remaining trucks are straight trucks.

[3] Corn is also received in hopper railcars; however, emission factors are less for rail than for truck. Therefore, all grain is assumed to be received by either straight truck or hopper truck.

[4] Emission factors taken from AP-42 Table 9.9.1-2 (Feed Shipping: SCC 3-02-008-03). This estimate assumes all product is sold in trucks. $PM_{2.5}$ is assumed to be the same as PM_{10}.

[5] Uncontrolled Emissions (lb/day) = Emission Factor (lb/ton) x Material Transferred (tons/day)

[6] Assume a capture/control efficiency of 90%.
Controlled Emissions (lb/day) = Uncontrolled Emissions (lb/day) x [1 - (Control Efficiency %÷ 100)]

[7] Controlled Emissions (tons/yr) = Controlled Emissions (lb/day) x 365 days/yr÷ 2000 lb/ton

Appendix A: Emissions Calculations
1988 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC1

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

$PM_{2.5}$:PM_{10} Ratio =	0.37705							
Bulk Bagger #1 (16J44):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	150	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	150	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	30.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	5.63	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	5.63	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	2.12	tons/yr						
Bulk Bagger #3 (41Z6):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	150	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	150	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	30.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	1.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	5.63	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	5.63	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	2.12	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**11.26**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**4.25**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
1995 Unpermitted Emission Units - Starch Reaction Operations
Uncontrolled Emissions
Table UC2

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

$PM_{2.5}$:PM_{10} Ratio (50G1) =	0.56962							
$PM_{2.5}$:PM_{10} Ratio (50G2) =	0.37705							
Reactor 2 Mill (50G1):								
Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	250	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	250	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	51.43	lb/day						
Uncontrolled PM/PM_{10} Emissions =	2.14	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	9.39	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	9.39	tons/yr X	0.56962					
Uncontrolled $PM_{2.5}$ Emissions =	5.35	tons/yr						
Additives Mill (50G2):								
Controlled PM/PM_{10} Emissions:	0.1	tons/yr						
Control Efficiency:	98	%						
Uncontrolled PM/PM_{10} Emissions =	0.1	tons/yr ÷ (1 -	98	%)				
Uncontrolled PM/PM_{10} Emissions =	5.00	tons/yr						
Uncontrolled PM/PM_{10} Emissions =	5.00	tons/yr ÷	8760	hr/yr X	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	1.14	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	1.14	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	27.40	lb/day						
Uncontrolled $PM_{2.5}$ Emissions =	5.00	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	1.89	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**14.39**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**7.23**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratios are taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
1997 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC3

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

$PM_{2.5}$:PM_{10} Ratio = 0.37705

Reprocess Tote Dump (17U59):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	400	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	400	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	82.29	lb/day						
Uncontrolled PM/PM_{10} Emissions =	3.43	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	15.02	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	15.02	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	5.66	tons/yr						
Total Uncontrolled PM/PM_{10} Emissions =	**15.02**	**tons/yr**						
Total Uncontrolled $PM_{2.5}$ Emissions =	**5.66**	**tons/yr**						

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
2000 Unpermitted Emission Units - Starch Drying and Handling Operations
Uncontrolled Emissions
Table UC4

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

$PM_{2.5}$:PM_{10} Ratio = 0.37705

Bulk Bag Feed #1 Dump Station (50V111):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	650	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	650	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	24.40	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	24.40	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	9.20	tons/yr						

Bulk Bag Feed #2 Dump Station (50V112):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	650	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	650	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	5.57	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	24.40	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	24.40	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	9.20	tons/yr						

Total Uncontrolled PM/PM_{10} Emissions =	**48.81**	**tons/yr**
Total Uncontrolled $PM_{2.5}$ Emissions =	**18.40**	**tons/yr**

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Appendix A: Emissions Calculations
2000 Unpermitted Emission Units - Starch Packaging and Loadout Operations
Uncontrolled Emissions
Table UC5

Company Name: Tate & Lyle Ingredients Americas LLC
Address City IN Zip: 2245 North Sagamore Parkway, Lafayette, IN 47904
Significant Source Modification No.: 157-30564-00003
Part 70 Permit Renewal No.: T157-27029-00003
Reviewer: John Haney
Date: December 21, 2011

$PM_{2.5}$:PM_{10} Ratio = 0.37705

Packer #1 Reject Bag Dump (17V04):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						

Packer #2 Reject Bag Dump (17V05):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						

Packer #4 Reject Bag/Tote Dump (17V06):

Uncontrolled Grain Loading:	1	gr/scf						
Aspiration Rate:	500	cfm						
Uncontrolled PM/PM_{10} Emissions =	1	gr/scf X	500	cfm X	60	min/hr ÷	7000	lb/gr
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	24	hr/day				
Uncontrolled PM/PM_{10} Emissions =	102.86	lb/day						
Uncontrolled PM/PM_{10} Emissions =	4.29	lb/hr X	8760	hr/yr ÷	2000	lb/ton		
Uncontrolled PM/PM_{10} Emissions =	18.77	tons/yr						
Uncontrolled $PM_{2.5}$ Emissions =	18.77	tons/yr X	0.37705					
Uncontrolled $PM_{2.5}$ Emissions =	7.08	tons/yr						

Total Uncontrolled PM/PM_{10} Emissions =	**56.31**	**tons/yr**
Total Uncontrolled $PM_{2.5}$ Emissions =	**21.23**	**tons/yr**

NOTES:
$PM_{2.5}$:PM_{10} Ratio is taken from US EPA Emissions Inventory Tools, PM Calculator (Based on SCC Code), http://www.epa.gov/ttn/chief/eiinformation.html

Indiana Department of Environmental Management
Office of Air Quality

Appendix B (Permit Level Determinations) to Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Operating Permit Renewal

Source Description and Location

Source Name:	Tate & Lyle Ingredients Americas LLC
Source Location:	2245 North Sagamore Parkway, Lafayette, IN 47904
County:	Tippecanoe
SIC Code:	2046
Significant Source Modification No.:	157-30564-00003
Part 70 Operating Permit Renewal No.:	T157-27029-00003
Permit Reviewer:	John Haney

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Tate & Lyle Ingredients Americas LLC (formerly known as Tate & Lyle, Sagamore) relating to the operation of a stationary wet corn milling plant. On September 26, 2008, Tate & Lyle Ingredients Americas LLC submitted an application to the OAQ requesting to renew its operating permit. Tate & Lyle Ingredients Americas LLC was issued a Part 70 Operating Permit on June 28, 2004.

Description of Proposed Modification
Starch Packaging and Loadout Operations (1988)

The following is a list of the proposed emission units, installed in 1988:

(h) Starch Packaging and Loadout Operations, consisting of:

(26) One (1) Bulk Bagger #1, identified as 16J44, constructed in 1988, permitted in 2011, with emissions controlled by integral product receiver/baghouse 16F25, and exhausting via vent 191 to stack 177.

(31) One (1) Bulk Bagger #3, identified as 41Z6, constructed in 1988, permitted in 2011, with emissions controlled by cyclone 41F60 and baghouse 41F44, and exhausting via vent 256 to stack 361.

Permit Level Determination – Part 70
Starch Packaging and Loadout Operations (1988)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	11.26
PM_{10}	11.26
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(d)(3) because the modification has a potential to emit less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year each of particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to ten (10) micrometers (PM_{10}). Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Starch Packaging and Loadout Operations (1988)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**
New Units						
Bulk Bagger #3 (41Z6)	3.02	3.02	0	0	0	0
Bulk Bagger #1 (16J44)	0.57	0.57	0	0	0	0
Permitted Units (Constructed in 1987-1989)						
Product Transfer for Bulk Bagger #1 (16F25)			0	0	0	0
Product Receiver for #3 Bulk Bagger (41F8)	0.48	0.48	0	0	0	0
J-4 Starch Rail Loadout Collector (16F100)	0.74	0.74	0	0	0	0
33 Bldg Starch Bulk Truck Loadout (41F6)	0.18	0.18	0	0	0	0
Total for Modification	**4.99**	**4.99**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**100**	**40**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to this modification.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

Emission Unit(s)	**Stack(s)**	**PM Limit (lb/hr)**	**PM_{10} Limit (lb/hr)**
Bulk Bagger #3 (41Z6)*, Bag Packer #3 House Dust Collector (41F44)*	256 to 361	0.69, total	0.69, total
Bulk Bagger #1 (16J44)*, Product Transfer for Bulk Bagger #1 (16F25)*	191 to 177	0.13, total	0.13, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11**	0.11
J-4 Starch Rail Loadout Collector (16F100)*	183 to 177	0.17	0.17
33 Bldg Starch Bulk Truck Loadout (41F6)	189	0.04**	0.04

* This emission unit had previously been limited only pursuant to 326 IAC 6-3-2.
** This emission limit had previously been established pursuant to CP 157-5294-00003.

Compliance with these limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for this modification.

Description of Proposed Modification
Starch Reaction Operations (1995)

The following is a list of the proposed emission units, installed in 1995:

(f) Starch Reaction Operations, consisting of:

(10) One (1) Reactor 2 Mill, identified as 50G1, constructed in 1995, permitted in 2011, with emissions controlled by baghouse 50F48, and exhausting via vent 243 to stack 355.

(15) One (1) Additives Mill, identified as 50G2, constructed in 1995, permitted in 2011, with emissions aspirated to the intakes of Bins 33V42, 33V43, 33V40, and 33V41.

Permit Level Determination – Part 70
Starch Reaction Operations (1995)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	14.39
PM_{10}	14.39
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(d)(3) because the modification has a potential to emit less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year each of particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to ten (10) micrometers (PM_{10}). Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Starch Reaction Operations (1995)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**
New Units						
Reactor 2 Mill (50G1)	0.31	0.31	0	0	0	0
Additives Mill (50G2)	2.41	2.41	0	0	0	0
Permitted Units (Constructed in 1994-1996)						
Blend Bins (33V42, 33V43, 33V40, 33V41)			0	0	0	0
Starch Feed Bin (33V1)	1.27	1.27	0	0	0	0
Starch Feed Bin (33V2)	1.27	1.27	0	0	0	0
Catalyst Storage Bin (33V5)	0.15	0.15	0	0	0	0
Low Pressure Dry Starch Reactor (33R1)	0.34	0.34	0	0	0	0
High Pressure Dry Starch Reactor (33R2)	0.35	0.35	0	0	0	0
Total for Modification	**6.10**	**6.10**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**100**	**40**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to this modification.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

Facility	**Stack(s)**	**PM Limit (lb/hr)**	**PM_{10} Limit (lb/hr)**
Dry Starch Product Screening Receiver (50F48)*, Reactor 2 Mill (50G1)	243 to 355	0.07, total	0.07, total
Dry Starch Blend Bins (33V42, 33V43, 33V40, 33V41), Additives Mill (50G2)	244, 245, 246, & 247 to 355	0.55**, total	0.55**, total
High Pressure Dry Starch Reactor (33R2)*	240	0.08	0.08

* This emission unit had previously been limited only pursuant to 326 IAC 6-3-2.
** This emission limit had previously been established pursuant to CP 157-4195-00003 and revised pursuant to A 157-6170-00003 and Part 70 Operating Permit No. T157-6009-00003.

Compliance with these limits, combined with the limited emissions from emission units 33V1, 33V2, 33V5, and 33R1, will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for this modification.

Description of Proposed Modification
Starch Packaging and Loadout Operations (1997)

The following is a list of the proposed emission units, installed in 1997:

(h) Starch Packaging and Loadout Operations, consisting of:

(3) One (1) Reprocess Tote Dump, identified as 17U59, constructed in 1997, permitted in 2011, with emissions controlled by baghouse 17F58, and exhausting indoors to stack 334.

Permit Level Determination – Part 70
Starch Packaging and Loadout Operations (1997)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	15.02
PM_{10}	15.02
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(d)(3) because the modification has a potential to emit less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year each of particulate matter (PM) and particulate matter with an aerodynamic diameter less than or equal to ten (10) micrometers (PM_{10}). Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Starch Packaging and Loadout Operations (1997)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**
New Units						
Reprocess Tote Dump (17U59)	0.13	0.13	0	0	0	0
Permitted Units (Constructed in 1996-1998)						
Reprocess Bag Dump (17U58)			0	0	0	0
Product Transfer for Bulk Bagger #2 (17F14)	0.35	0.35	0	0	0	0
Bulk Bagger #2 (17Z14)			0	0	0	0
Receivers for #3 Bulk Bagger (41F81, 41F82)	0.48	0.48	0	0	0	0
Bulk #1 Product Screen (20F1)	4.38	4.38	0	0	0	0
Bulk #2 Product Screen (20F50)			0	0	0	0
Bulk Truck Loadout System (20F78/20F79)	0.53	0.53	0	0	0	0
Total for Modification	**5.87**	**5.87**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**100**	**40**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Reprocess Tote Dump (17U59), Reprocess Bag Dump (17U58)	334	0.03, total	0.03, total
Product Transfer for Bulk Bagger #2 (17F14), Bulk Bagger #2 (17Z14)	254	0.08*, total	0.08, total
Product Receivers for #3 Bulk Bagger (41F8/41F81/41F82)	208 to 355	0.11**	0.11
Bulk #1 Product Screen (20F1), Bulk #2 Product Screen (20F50)	330/331 to 404	1.0***, total	1.0, total
Bulk Truck Loadout System (20F78/20F79)	264 to 404	0.12*	0.12

* This emission limit had previously been established pursuant to CP 157-4160-00003.
** This emission limit had previously been established pursuant to CP 157-5294-00003.
*** This emission limit had previously been established pursuant to Exemption 157-8071-00003.

Compliance with these limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for this modification.

Description of Proposed Modification
Starch Packaging and Loadout Operations (2000)

The following is a list of the proposed emission units, installed in 2000:

(h) Starch Packaging and Loadout Operations, consisting of:

(7) One (1) Packer #1 Reject Bag Dump, identified as 17V04, constructed in 2000, permitted in 2011, with emissions controlled by cyclone 17F9 and baghouse 17F10, and exhausting to stack 177.

(10) One (1) Packer #2 Reject Bag Dump, identified as 17V05, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F2, and exhausting to stack 177.

(24) One (1) Packer #4 Reject Bag/Tote Dump, identified as 17V06, constructed in 2000, permitted in 2011, with emissions controlled by baghouse 17F15, and exhausting via vent 333 to stack 356.

Permit Level Determination – Part 70
Starch Packaging and Loadout Operations (2000)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	56.31
PM_{10}	56.31
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Starch Packaging and Loadout Operations (2000)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**
New Units						
Packer #1 Reject Bag Dump (17V04)	5.43	5.43	0	0	0	0
Packer #2 Reject Bag Dump (17V05)	4.82	4.68	0	0	0	0
Packer #4 Reject Bag/Tote Dump (17V06)	9.64	4.68	0	0	0	0
Total for Modification	**19.89**	**14.79**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**100**	**40**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and greater than fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

Emission Unit(s)	Stack(s)	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)
Packer #1 (17Z38), Packer #1 Reject Bag Dump (17V04)	177	1.24, total	1.24, total
Bag Packer #2 House Dust Collector (17F2), Packer #2 Reject Bag Dump (17V05)	177	1.1*, total	1.07, total
House Dust Collection System for Bag Packer #4 (17F15), Packer #4 Reject Bag/Tote Dump (17V06)	333	2.2**, total	1.07, total

* This emission limit had previously been established for emission unit 17F2 pursuant to CP 157-4160-00003.
** This emission limit had previously been established for emission unit 17F15 pursuant to CP 157-4569-00003 and revised per A 157-6180-00003.

Compliance with these limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and is less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for this modification.

Description of Proposed Modification
Starch Drying and Handling Operations (2001)

The following is a list of the proposed emission units, installed in 2001:

(g) Starch Drying and Handling Operations, consisting of:

(51) One (1) Bulk Bag Feed #1 Dump Station, identified as 50V111, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

(52) One (1) Bulk Bag Feed #2 Dump Station, identified as 50V112, constructed in 2001, permitted in 2011, with emissions controlled by baghouse 50F106, and exhausting to stack 350.

Permit Level Determination – Part 70
Starch Drying and Handling Operations (2001)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	48.81
PM_{10}	48.81
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Starch Drying and Handling Operations (2001)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**
New Units						
#1 Dump Station (50V111)	0.44	0.44	0	0	0	0
#2 Dump Station (50V112)			0	0	0	0
Permitted Units (Constructed in 2000-2002)						
Agglomeration Blender/Receiver (50F106)			0	0	0	0
Starch Roll Dryer #8 (41D8)	0	0	0	< 12.60	0	0
Bulk Bag Dump Station (41F13)	0.13	0.13	0	0	0	0
Spray Agglomeration System (50D101)	4.82	4.82	0	0	0	0
Total for Modification	**5.39**	**5.39**	**0**	**< 12.60**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**100**	**40**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

Emission Unit(s)	**Stack(s)**	**PM Limit (lb/hr)**	**PM_{10} Limit (lb/hr)**
#1 Dump Station (50V111), #2 Dump Station (50V112), Agglomeration Blender/Receiver (50F106)	350 to 361	0.10, total	0.10, total
Bulk Bag Dump Station (41F13)	344	0.03*	0.03

* This emission limit had previously been established per CP 157-5294-00003.

Compliance with these limits, combined with the limited emissions from emission units 41D8 and 50D101, will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable for this modification.

Description of Proposed Modification
Corn Receiving and Handling Operations (2006-2007)

The following is a list of the proposed emission units, installed in 2006 and 2007:

(a) Corn Receiving and Handling Operations, consisting of:

(3) One (1) Corn Transfer Conveyor, identified as 8U1, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(4) One (1) Bucket Corn Elevator, identified as 12U2, constructed in 2006, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(5) Two (2) Corn Transfer Conveyors, identified as 12U4 and 12U5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(7) Three (3) Corn Transfer Conveyors, identified as 13U6, 13U7, and 13U8, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(8) One (1) Corn Cleaner Fill Conveyor, identified as 14U12, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(9) One (1) Vibrating Corn Cleaning System, identified as 14J5, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

(10) One (1) Corn Cleanings Pneumatic Transfer, identified as 14C300, constructed in 2007, permitted in 2011, with emissions controlled by baghouse 08F300, and exhausting to stack 433.

Permit Level Determination – Part 70
Corn Receiving and Handling Operations (2006-2007)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	greater than 25
PM_{10}	greater than 25
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the pending Part 70 Operating Permit Renewal No. T157-27029-00003 because it does require a case-by-case determination of an emission limitation.

Permit Level Determination – PSD
Corn Receiving and Handling Operations (2006-2007)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)						
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**VOC**	**CO**	**NO_X**
New Units							
Corn Transfer Conveyor (8U1)	5.08	5.08	0.34	0	0	0	0
Bucket Corn Elevator (12U2)				0	0	0	0
Corn Transfer Conveyors (12U4, 12U5)				0	0	0	0
Corn Transfer Conveyors (13U6, 13U7, 13U8)				0	0	0	0
Corn Cleaner Fill Conveyor (14U12)				0	0	0	0
Vibrating Corn Cleaning System (14J5)				0	0	0	0
Corn Cleanings Pneumatic Transfer (14C300)				0	0	0	0
Total for Modification	**5.08**	**5.08**	**0.34**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**10**	**40**	**40**	**100**	**40**

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source shall limit the potential to emit of this modification as follows:

(a) The following emission units shall be controlled for PM and PM_{10} using best available control technology (BACT):

12V101, 12V102, 8U1, 12U2, 12U4, 12U5, 13V1, 13V2, 13V3, 13V4, 13V5, 13U6, 13U7, 13U8, 14U12, 14J5, 14C300, and 14U9.

(b) Best available control technology (BACT) for baghouse 08F300 shall be the following:

(1) PM emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(2) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 0.004 gr/dscf.

(3) PM emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(4) PM_{10} (Filterable and Condensable) emissions from baghouse 08F300 shall not exceed 1.16 pounds per hour.

(5) The opacity from the baghouse 08F300 shall not exceed 3%.

Compliance with these existing 326 IAC 2-2-3 emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render additional requirements of 326 IAC 2-2 not applicable for this modification.

What if you are not satisfied with this decision and you want to file an appeal?

Who may file an appeal?
The decision described in the accompanying Notice of Decision may be administratively appealed. Filing an appeal is formally known as filing a "Petition for Administrative Review" to request an "administrative hearing."

If you object to this decision issued by the Indiana Department of Environmental Management (IDEM) and are: 1) the person to whom the decision was directed, 2) a party specified by law as being eligible to appeal, or 3) aggrieved or adversely affected by the decision, you are entitled to file an appeal. (An aggrieved or adversely affected person is one who would be considered by the court to be negatively impacted by the decision. If you file an appeal because you feel that you are aggrieved, it will be up to you to demonstrate in your appeal how you are directly impacted in a negative way by the decision).

The Indiana Office of Environmental Adjudication (OEA) was established by state law – see Indiana Code (IC) 4-21.5-7 – and is a separate state agency independent of IDEM. The jurisdiction of the OEA is limited to the review of environmental pollution concerns or any alleged technical or legal deficiencies associated with the IDEM decision making process. Once your request has been received by OEA, your appeal may be considered by an Environmental Law Judge.

What is required of persons filing an appeal?
Filing an appeal is a legal proceeding, so it is suggested that you consult with an attorney. Your request for an appeal must include your name and address and identify your interest in the decision (Or, if you are representing someone else, his or her name and address and their interest in the decision). In addition, please include a photocopy of the accompanying Notice of Decision or list the permit number and name of the applicant, or responsible party, in your letter.

Before a hearing is granted, you must identify the reason for the appeal request and the issues proposed for consideration at the hearing. You also must identify the permit terms and conditions that, in your judgment, would appropriately satisfy the requirements of law with respect to the IDEM decision being appealed. That is, you must suggest an alternative to the language in the permit (or other order, or decision) being appealed, and your suggested changes must be consistent with all applicable laws (See Indiana Code 13-15-6-2) and rules (See Title 315 of the Indiana Administrative Code, or 315 IAC).

The effective date of this agency action is stated on the accompanying Notice of Decision (or other IDEM decision notice). If you file a "Petition for Administrative Review" (appeal), you may wish to specifically request that the action be "stayed" (temporarily halted) because most appeals do not allow for an automatic "stay." If, after an evidentiary hearing, a "stay" is granted, the IDEM-approved action may be halted altogether, or only allowed to continue in part, until a final decision has been made regarding the appeal. However, if the action is not "stayed" the IDEM-approved activity will be allowed to continue during the appeal process.

(See reverse side)

Where can you file an appeal?
If you wish to file an appeal, you must do so in writing. There are no standard forms to fill out and submit, so you must state your case in a letter (called a petition for administrative review) to the Indiana Office of Environmental Adjudication (OEA). Do not send the original copy of your appeal request to IDEM. Instead, send or deliver your letter to:

The Indiana Office of Environmental Adjudication
100 North Senate Ave.
Indiana Government Center North
Room N501E
Indianapolis, IN 46204

If you file an appeal, also please send a copy of your appeal letter to the IDEM contact person identified in the Notice of Decision, and to the applicant (person receiving an IDEM permit, or other approval).

Your appeal (petition for administrative review) must be received by the Office of Environmental Adjudication in a timely manner. Different types of permit approvals have different deadlines for filing an appeal. The accompanying Notice of Decision (NOD) explains how to determine the due date for filing an appeal for this particular permit decision. To ensure that you meet this filing requirement, your appeal request must be:

1) Delivered in person to the OEA by the close-of-business on the due date. (If the due date falls on a day when the Office of Environmental Adjudication (OEA) is closed for the weekend or for a state holiday, then your petition will be accepted on the next business day on which OEA is open.); or
2) Given to a private carrier who will deliver it to the OEA on your behalf, (and from whom you must obtain a receipt dated on or before the due date); or
3) For those appeal requests sent by U.S. Mail, your letter must be postmarked by no later than midnight of the due date; or
4) Faxed to the OEA at 317/233-9372 before the close-of-business of the due date, provided that the original signed "Petition for Administrative Review" is also sent, or delivered, to the OEA in a timely manner.

What are the costs associated with filing an appeal?
The OEA does not charge a fee for filing documents for an administrative review or for the use of its hearing facilities. However, OEA does charge a fifteen cent ($.15) per page fee for copies of any documents you may request. Another cost that could be associated with your appeal would be for attorney's fees. Although you have the option to act as your own attorney, the administrative review and associated hearing are complex legal proceedings; therefore, you should consider whether your interests would be better represented by an experienced attorney.

What can you expect from the Office of Environmental Adjudication (OEA) after you file for an appeal?
The OEA will provide you with notice of any prehearing conferences, preliminary hearings, hearings, "stays," or orders disposing of the review of this decision. In addition, you may contact the OEA by phone at 317/232-8591 with any scheduling questions. However, technical questions should be directed to IDEM at the number indicated on the Notice of Decision.

Do not expect to discuss details of your case with the OEA other than in a formal setting such as a prehearing conference, a formal hearing, or a settlement conference. The OEA is not allowed to discuss a case without all sides being present. All parties to the proceeding are expected to appear at the initial prehearing conference.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Richard Dickinson
Tate & Lyle Ingredients Americas LLC
2200 E. Eldorado St
Decatur, IL 62525

DATE: July 3, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V - Renewal
157-27029-00003

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Kevin Neibrugge (Plant Manager)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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July 3, 2012

TO: Tippecanoe County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Tate & Lyle Ingredients Americas, LLC
Permit Number: 157-27029-00003

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: July 3, 2012

RE: Tate & Lyle Ingredients Americas, LLC / 157-27029-00003

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08