INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: December 10, 2007

RE: Louis Dreyfus Agricultural Industries, LLC/ 085-24891-00102

FROM: Matthew Stuckey, Deputy 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 according to IC 13-15-6-3, 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 and IC 13-15-6-1 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, **within eighteen (18) calendar days of the mailing of this notice**. 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:

(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.

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
FNPER.dot12/03/07

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Indianapolis, Indiana 46204-2251
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Mr. David B. Smith
Louis Dreyfus Agricultural Industries, LLC
7344 State Road 15 South
Claypool, Indiana 46510-9746

December 10, 2007

Re: 085-24891-00102
First Significant Source Modification to:
Part 70 Operating Permit No. 085-21297-00102

Dear Mr. Smith:

Louis Dreyfus Agricultural Industries, LLC was issued Part 70 Operating Permit No. 085-21297-00102 on Janaury 24, 2006 for a soybean oil, soybean meal, and biodiesel manufacturing plant. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for modification at the source:

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| I040000 | Tank #4 Biodiesel | 725,000 gals | | |
| I050000 | Tank #5 Biodiesel | 725,000 gals | | |
| I060000 | Tank #6 Biodiesel | 325,000 gals | | |
| I070000 | Tank #7 Biodiesel | 325,000 gals | | |
| I080000 | Tank #8 Biodiesel | 325,000 gals | | |
| I090000 | Tank #9 Biodiesel | 325,000 gals | | |
| I100000 | Tank #10 Biodiesel | 325,000 gals | | |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| I110000 | Tank #11 Biodiesel | 325,000 gals | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| I250000 | Methanol Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I260000 | Methanol Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I270000 | Methanol Storage Tank #3 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I280000 | Methanol Storage Tank #4 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I290000 | Methanol Storage Tank #5 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I300000 | Methanol Storage Tank #6 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I230000 | Sodium Methylate (catalyst) Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I240000 | Sodium Methylate (catalyst) Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 386-1024 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 and ask for Duane Van Laningham or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Attachments

ERG/YC

cc: File – Kosciusko County
U.S. EPA, Region V
Kosciusko County Health Department
IDEM Northern Regional Office
Air Compliance Section Inspector
Compliance Data Section
Administrative and Development
Technical Support and Modeling
Billing, Licensing and Training Section

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# PART 70 SIGNIFICANT SOURCE MODIFICATION
# OFFICE OF AIR QUALITY

## Louis Dreyfus Agricultural Industries LLC
## 7344 State Road 15 South
## Claypool, Indiana 46510-9746

(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.

| | |
|---|---|
| 1st Significant Source Modification No.:<br>085-24891-00102 | |
| Issued by/Original Signed By:<br><br>Matthew Stuckey, Deputy Branch Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: December 10, 2007 |

## 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 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(15)] [326 IAC 2-7-1(22)]

The Permittee has submitted an application for construction and operation of a refined bleached soybean oil (RB Oil), soybean salad oil, soybean meal, and biodiesel manufacturing plant. It will have a capacity to crush 1,686,300 tons of soybeans to manufacture the various products. The soybean crush plant will produce enough soybean oil to produce 80 million gallons of soybean oil. The company may purchase up to 80 million gallons of soybean oil from the outside vendors. The plant will produce a maximum of 80 million gallons of biodiesel and a maximum of 80 million gallons of refined oil products (salad oil or RB Oil).

| | |
|---|---|
| Source Address: | 7344 State Road 15 South, Claypool, Indiana 46510-9746 |
| Mailing Address: | 7344 State Road 15 South, Claypool, Indiana 46510-9746 |
| General Source Phone Number: | (574) 566-2100 |
| SIC Code: | 2075, 2079 & 2869 |
| County Location: | Kosciusko |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Minor Source, under PSD Rules<br>Major Source, Section 112 of the Clean Air Act<br>Nested Source with Biodiesel process Part as One of 28 Source Categories |

### 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 to be constructed in 2006:

(a)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A030000 | Truck Dump No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A020000 | Truck Dump No. 2 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A030100 | Discharge Conveyor No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A020100 | Discharge Conveyor No. 2 | 600 | Grain Receiving Baghouse | Stack AF1 |
| A040000 | Bean Receiving Leg No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A050000 | Bean Receiving Leg No. 2 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A170100 | Screenings Tank Feed Conveyor | 5 | Grain Receiving Baghouse | Stack AF-1 |
| A010000 | Rail Collection Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A070000 | Screener No. 1 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A060000 | Screener No. 2 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A010090 | Rail Scale Dump | 330 | Grain Receiving Baghouse | Stack AF-1 |
| A010100 | Rail Scale Discharge Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A150100 | Cross Bin No 1 thru 3 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A120100 | Cross Bin No 4 thru 6 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A151000 | Discharge Bin No 1 thru 3 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A121000 | Discharge Bin No 4 thru 6 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A153000 | Day Bin Leg | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A160100 | Feed Day Tank Conveyor | 600 | Grain Receiving Baghouse | Stack AF-1 |
| AF-1 A20000 | Grain Receiving Baghouse | 21,900 acfm @ 0.005 grain/acf outlet gr loading | | Stack AF1 |
| A160000 | Day Bin Vent | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A170000 | Screenings Tank | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170300 | Screenings Recycle Leg | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170400 | Screenings Reclaim Conveyor | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011300 | Bean Weigh Scale | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B310000 | Screenings Weight Belt | 5 | Prep exhaust baghouse | Stack AF-3 |
| B310300 | Destoner | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011200 | VSC Feed Leg | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B160300 | VSC Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010100 | Whole Bean Aspirator No 1 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B020100 | Whole Bean Aspirator No 2 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010900 | Whole Bean Aspirator Cyclone | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B030800 | Conditioned Bean Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A152000 | West Bin Cross Conveyor 1-3 | 360 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A122000 | East Bin Cross Conveyor 4-6 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A130100 | West Bin Feed Conveyor | 600 | Prep exhaust baghouse | Stack AF-3 |
| A100100 | East Bin Feed Conveyor | 600 | Prep exhaust baghouse | Stack AF-3 |
| B030900 | Hull Collection Conveyor | 0.02 | Prep exhaust baghouse | Stack AF-3 |
| E130200 | Screening Refining Conveyor | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130000 | Hull Screener No.1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150000 | Hull Screener No.2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130100 | Secondary Aspirator No 1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150100 | Secondary Aspirator No 2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E160000 | Secondary Aspirator Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070300 | 4 Hour Hull Tank | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070100 | Pellet Mill / Conditioner | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E080000 | Pellet Cooler | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E090000 | Pellet Cooler Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050200 | Hull Hammer Mill Feeder | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050000 | Hull Hammer Mill | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050100 | Hull Hammer Mill Plenum | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G140000 | Hull Pellet Rail Loadout | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050100 | Pelleted Hulls Leg | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050200 | Pelleted Hulls Storage Conveyor | 15 | Prep exhaust baghouse | Stack AF-3 |
| E070400 | Hull Receiver Cyclone | 125 | Prep exhaust baghouse | Stack AF-3 |
| AF-3 G100000 | Prep exhaust baghouse | 29,500 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-3 |
| G060000 | Pelleted Hulls Truck Loadout | | Hull Bin Filter | |
| G080000 | Ground Hulls Truck Loadout | | Hull Bin Filter | |

(b)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| G070300 | Truck Meal Load out Feed Conveyor | 300 | Load out baghouse | Stack AF2 |
| G070500 | Truck Load out No. 1 Conveyor | 330 | Load out baghouse | Stack AF2 |
| G060500 | Truck Load out No. 2 Conveyor | 330 | Load out baghouse | Stack AF2 |
| G150000 | Truck Loader No.1 | 330 | Load out baghouse | Stack AF2 |
| G160000 | Truck Loader No.2 | 330 | Load out baghouse | Stack AF2 |
| G060000 | Pelleted Hull Load out Bin | 148 | Load out baghouse | Stack AF2 |
| G070000 | Meal Load out Bin | 300 | Load out baghouse | Stack AF2 |
| G130000 | Meal Bulk Weigh Scale (Rail) | 330 | Load out baghouse | Stack AF2 |
| G170000 | Rail Car Load out | 330 | Load out baghouse | Stack AF2 |
| Stack AF2 G090000 | Load out baghouse | 38,000 acfm @ 0.005 grain/acf outlet grain loading | | |
| C010600 | Flake Collection Conveyor (9 flakers) | 101.6 | Flaker aspiration baghouse | Stack AF-4 |
| C010000 | Flaking Roll No 1 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C020000 | Flaking Roll No 2 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C030000 | Flaking Roll No 3 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C040000 | Flaking Roll No 4 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C050000 | Flaking Roll No 5 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C060000 | Flaking Roll No 6 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C070000 | Flaking Roll No 7 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C080000 | Flaking Roll No 8 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| C090000 | Flaking Roll No 9 | 20.3 | Flaker aspiration baghouse | Stack AF-4 |
| AF-4 C110000 | Flaker aspiration baghouse | 24,000 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-4 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| B040000 | Hulloosenator No. 1 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B0801000 | Hulloosenator No. 2 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B130000 | Hulloosenator No. 3 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B170000 | Hulloosenator No. 4 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B050000 | Cascade Dryer No. 1 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B090000 | Cascade Dryer No. 2 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B140000 | Cascade Dryer No. 3 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B180000 | Cascade Dryer No. 4 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B210000 | CCD Cyclone | 192.5 | Hot dehulling baghouse | Stack AF-5 |
| B060000 | Cracking Roll No.1 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B100000 | Cracking Roll No.2 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B150000 | Cracking Roll No.3 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B190000 | Cracking Roll No.4 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B070000 | Cascade Conditioner No. 1 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B110000 | Cascade Conditioner No. 2 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B160000 | Cascade Conditioner No. 3 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B200000 | Cascade Conditioner No. 4 | 48.1 | Hot dehulling baghouse | Stack AF-5 |
| B230000 | CCC Cyclone | 192.5 | Hot dehulling baghouse | Stack AF-5 |
| AF-5 B260000 | Hot dehulling baghouse | 60,000 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-5 |
| E020300 | Hammer Mill Mixing Conveyor | 148 | Meal Grinding Baghouse | Stack AF-6 |
| E010100 | Meal L-Path Conveyor | 148 | Meal Grinding Baghouse | Stack AF-6 |
| E010300 | Meal Hammer Mill Feed Conveyor | 148 | Meal Grinding Baghouse | Stack AF-6 |
| E020200 | Meal Hammer Mill Feeder No. 1 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E030200 | Meal Hammer Mill Feeder No. 2 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E040200 | Meal Hammer Mill Feeder No. 3 (spare) | 74.0 | Meal Grinding Baghouse | Stack AF-6 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| E020000 | Meal Hammer Mill No. 1 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E030000 | Meal Hammer Mill No. 2 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E040000 | Meal Hammer Mill No. 3 (spare) | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E020100 | Meal Hammer Mill Bin No. 1 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E030100 | Meal Hammer Mill Bin No. 2 | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E040100 | Meal Hammer Mill Bin No. 3 (spare) | 74.0 | Meal Grinding Baghouse | Stack AF-6 |
| E020300 | Meal Hammer Mill Discharge Conveyor | 148 | Meal Grinding Baghouse | Stack AF-6 |
| E020500 | Meal Storage Discharge Conveyor | 125 | Meal Grinding Baghouse | Stack AF-6 |
| E010390 | Meal Leg | 300 | Meal Grinding Baghouse | Stack AF-6 |
| G010000 | Meal Bin No. 1 | 148 | Meal Grinding Baghouse | Stack AF-6 |
| G020000 | Meal Bin No. 2 | 148 | Meal Grinding Baghouse | Stack AF-6 |
| G030000 | Meal Bin No. 3 | 148 | Meal Grinding Baghouse | Stack AF-6 |
| G040000 | Meal Bin No. 4 | 148 | Meal Grinding Baghouse | Stack AF-6 |
| AF-6 E110000 | Mill Grinding Baghouse | 22,000 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-6 |
| B010000 | VSC No. 1 | 96.25 | VSC Cyclone | Stack S-1 |
| B020000 | VSC No. 2 | 96.25 | VSC Cyclone | Stack S-1 |
| B010500 | VSC Air Heater | 192.5 | VSC Cyclone | Stack S-1 |
| B010400 | VSC Discharge Conveyor | 192.5 | VSC Cyclone | Stack S-1 |
| B010300 | Conditioner Bean Loop Path | 192.5 | VSC Cyclone | Stack S-1 |
| B010700 | VSC Cyclone | 192.5 | | Stack S-1 |
| B120000 | Jet Dryer No. 1 | 96.25 | Jet Dryer Cyclone No. 1A &1B | Stack S-1 |
| B030000 | Jet Dryer No. 2 | 96.25 | Jet Dryer Cyclone No. 2A &2B | Stack S-1 |
| B120100 | Jet Dryer Cyclone No. 1A | 96.25 | | Stack S-1 |
| B120200 | Jet Dryer Cyclone No. 1B | 96.25 | | Stack S-1 |
| B030100 | Jet Dryer Cyclone No. 2A | 96.25 | | Stack S-1 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| B030200 | Jet Dryer Cyclone No. 2B | 96.25 | | Stack S-1 |

(c)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| | Soybean oil extractor | 196.5 | Mineral oil absorber | Stack S-4 |
| | One (1) set of evaporators | | Mineral oil absorber | Stack S-4 |
| | One (1) Desolventizer/toaster | | Mineral oil absorber | Stack S-4 |
| | One (1) set of water separators | | Mineral oil absorber | Stack S-4 |
| VS030000 | Main Vent Condenser | | Mineral Oil Absorber | Stack S-4 |
| | One (1) hexane storage tank | 20,000 gallons | Mineral Oil Absorber | Stack S-4 |
| | One (1) soybean oil storage tank | 235,000 gallons | | |
| | Mineral oil absorber | | | Stack S-4 |
| EX020000-1 | DTDC Dryer Deck No. 1 | 156 | DTDC Dryer Cyclone No. 1 | Stack S-2 |
| EX020000-4 | DTDC Cooler Deck | 149.7 | DTDC Cooler Cyclone No. 1 | Stack S-2 |
| EX020000-2 | DTDC Dryer Deck No. 2 | 156 | DTDC Dryer Cyclone No. 2 | Stack S-2 |
| EX020000-3 | DTDC Dryer Deck No. 3 | 156 | DTDC Dryer Cyclone No. 2 | Stack S-2 |
| EX020400 | DTDC Dryer Cyclone No. 1 | 42,600 scfm | | Stack S-2 |
| EX020500 | DTDC Dryer Cyclone No. 2 | 42,600 scfm | | Stack S-2 |

(d)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| I040000 | Tank #4 Biodiesel | 725,000 gals | | |
| I050000 | Tank #5 Biodiesel | 725,000 gals | | |
| I060000 | Tank #6 Biodiesel | 325,000 gals | | |
| I070000 | Tank #7 Biodiesel | 325,000 gals | | |
| I080000 | Tank #8 Biodiesel | 325,000 gals | | |
| I090000 | Tank #9 Biodiesel | 325,000 gals | | |
| I100000 | Tank #10 Biodiesel | 325,000 gals | | |
| I110000 | Tank #11 Biodiesel | 325,000 gals | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| I250000 | Methanol Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I260000 | Methanol Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I270000 | Methanol Storage Tank #3 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I280000 | Methanol Storage Tank #4 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I290000 | Methanol Storage Tank #5 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I300000 | Methanol Storage Tank #6 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I230000 | Sodium Methylate (catalyst) Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I240000 | Sodium Methylate (catalyst) Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |

(e)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| SP010000 (B-1) | Main Boiler, natural gas fired and #2 fuel oil as back up fuel | 220 MMBtu/hr | Low NOx burner and Flue gas recirculation | Stack S-3 |

A.3 Specifically Regulated 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 which are specifically regulated, as defined in 326 IAC 2-7-1(21):

| Description | Capacity (gallons) | Control |
|---|---|---|
| Natural gas fired high pressure steam generator | 9 MMBtu/hr | None |
| Clay Bin | 10,800 | Clay Bin Filter |
| Hull Bin | 13,900 cu. ft | Hull Bin Filter |
| Silica Bin | <10,800 | Silica Bin Filter |
| Bleaching Earth Bins | <10,800 | Bleaching Earth Bins Filter |
| Salt Tank | <10,800 | Filter |
| Filter Aid | <10,800 | Filter |
| #2 fuel oil storage tank | 29,500 gallons | None |
| Cooling tower | 11,000 gpm | None |
| Three (3) Diesel Fire Pumps | 575 BHP each | None |
| Paved and unpaved roads and parking lots with public access | | None |
| Bean Storage Bin No. 1 thru 4 | 720 tons/hr | |

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);

(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 D.1 FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]:

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A030000 | Truck Dump No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A020000 | Truck Dump No. 2 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A030100 | Discharge Conveyor No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A020100 | Discharge Conveyor No. 2 | 600 | Grain Receiving Baghouse | Stack AF1 |
| A040000 | Bean Receiving Leg No. 1 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A050000 | Bean Receiving Leg No. 2 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A170100 | Screenings Tank Feed Conveyor | 5 | Grain Receiving Baghouse | Stack AF-1 |
| A010000 | Rail Collection Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A070000 | Screener No. 1 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A060000 | Screener No. 2 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A010090 | Rail Scale Dump | 330 | Grain Receiving Baghouse | Stack AF-1 |
| A010100 | Rail Scale Discharge Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A150100 | Cross Bin No 1 thru 3 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A120100 | Cross Bin No 4 thru 6 | 600 | Grain Receiving Baghouse | Stack AF-1 |
| A151000 | Discharge Bin No 1 thru 3 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A121000 | Discharge Bin No 4 thru 6 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A153000 | Day Bin Leg | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A160100 | Feed Day Tank Conveyor | 600 | Grain Receiving Baghouse | Stack AF-1 |
| AF-1 A20000 | Grain Receiving Baghouse | 21,900 acfm @ 0.005 grain/acf outlet gr loading | | Stack AF1 |
| A160000 | Day Bin Vent | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A170000 | Screenings Tank | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170300 | Screenings Recycle Leg | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170400 | Screenings Reclaim Conveyor | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011300 | Bean Weigh Scale | 192.5 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| B310000 | Screenings Weight Belt | 5 | Prep exhaust baghouse | Stack AF-3 |
| B310300 | Destoner | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011200 | VSC Feed Leg | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B160300 | VSC Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010100 | Whole Bean Aspirator No 1 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B020100 | Whole Bean Aspirator No 2 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010900 | Whole Bean Aspirator Cyclone | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B030800 | Conditioned Bean Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A152000 | West Bin Cross Conveyor 1-3 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A122000 | East Bin Cross Conveyor 4-6 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A130100 | West Bin Feed Conveyor | 600 | Prep exhaust baghouse | Stack AF-3 |
| A100100 | East Bin Feed Conveyor | 600 | Prep exhaust baghouse | Stack AF-3 |
| B030900 | Hull Collection Conveyor | 0.02 | Prep exhaust baghouse | Stack AF-3 |
| E130200 | Screening Refining Conveyor | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130000 | Hull Screener No.1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150000 | Hull Screener No.2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130100 | Secondary Aspirator No 1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150100 | Secondary Aspirator No 2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E160000 | Secondary Aspirator Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070300 | 4 Hour Hull Tank | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070100 | Pellet Mill / Conditioner | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E080000 | Pellet Cooler | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E090000 | Pellet Cooler Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050200 | Hull Hammer Mill Feeder | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050000 | Hull Hammer Mill | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050100 | Hull Hammer Mill Plenum | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G140000 | Hull Pellet Rail Loadout | 9.6 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| G050100 | Pelleted Hulls Leg | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050200 | Pelleted Hulls Storage Conveyor | 15 | Prep exhaust baghouse | Stack AF-3 |
| E070400 | Hull Receiver Cyclone | 125 | Prep exhaust baghouse | Stack AF-3 |
| AF-3 G100000 | Prep exhaust baghouse | 29,500 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-3 |
| G060000 | Pelleted Hulls Truck Loadout | | Hull Bin Filter | |
| G080000 | Ground Hulls Truck Loadout | | Hull Bin Filter | |

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

D.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, apply to the units described in Condition D.1.2 except when otherwise specified in 40 CFR Part 60, Subpart DD.

D.1.2 New Source Performance Standards (NSPS) Grain Elevators [326 IAC 12] [40 CFR Part 60, Subpart DD]

Pursuant to 40 CFR Part 60, Subpart DD (Standards of Performance for Grain Elevators),

(a) On and after the date on which the performance test required to be conducted (within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup) by 40 CFR 60.8 is completed, the particulate matter emissions from the Grain receiving baghouse and Prep exhaust baghouse, which exhaust through Stacks AF-1 and AF-3, respectively, shall not exceed 0.01 gr/dscf and the gasses discharged shall not exceed zero percent (0 %) opacity.

(b) On and after the 60$^{th}$ day of achieving the maximum production rate, but no later than 180 days after initial startup, the Permittee shall not cause to be discharged any fugitive emissions from:

(1) The truck unloading station or rail car unloading station which exhibits greater than five percent (5 %)opacity.

(2) Any grain handling operation, which exhibits greater than zero percent (0 %) opacity.

D.1.3 PSD Minor Limit for Particulate [326 IAC 2-2]

(a) The amount of soybeans processed shall be limited to less than 1,686,300 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

During the first twelve (12) months after startup of the soybean extraction process, the total amount of soybeans processed shall be limited such that the total soybean processed divided by the accumulated months of operation shall not exceed 140,525 tons up to a maximum total of 1,686,300 tons for the first twelve (12) months.

(b) The following facility's PM, and PM10 emissions rates shall be limited as follows:

| Process | Control | PM Limit (lbs/hour) | $PM_{10}$ Limit (lbs/hour) |
|---|---|---|---|
| Grain Receiving | Baghouse AF-1 | 0.939 | 0.939 |
| Prep Area | Baghouse AF-3 | 1.26 | 1.26 |

The soybean usage limit in Condition D.1.3(a), and the PM/$PM_{10}$ emissions limits in Conditions D.1.3(b), D.2.1, D.3.1, D.5.1, and D.6.1 are required to limit the potential to emit of PM/$PM_{10}$ to less than 250 tons per 12 consecutive month period. Compliance with the above limits will render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this source.

**Compliance Determination Requirements**

D.1.4 Particulate Control

(a) In order to comply with Conditions D.1.2, and D.1.3, baghouses AF-1 and AF-3, used for PM and $PM_{10}$ control, shall be in operation and control emissions from all emission units exhausting to stacks AF-1 and AF-3 at all times when an emission unit that the baghouse controls is in operation.

(b) 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.

D.1.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11], and [40 CFR 60.303]

Within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup of the grain receiving system, and prep system, the Permittee shall perform PM, $PM_{10}$, and opacity testing on baghouses AF-1, and AF-3, to verify compliance with Conditions D.1.2, and D.1.3 (b) utilizing methods as approved by the Commissioner.

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.

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

D.1.6 Visible Emissions Notations

(a) Daily visible emission notations of Stacks AF-1, and AF-3 exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. 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 steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.7 Parametric Monitoring

The Permittee shall record pressure drop across baghouses AF-1 and AF-3, used in conjunction with the grain receiving system and prep system, at least once per day when the grain receiving system and prep system are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest 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.

The instrument used for determining the pressure 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.

D.1.8 Broken or Failed Bag Detection

(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).

(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.

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

D.1.9 Record Keeping Requirements

(a) To document compliance with Condition D.1.3(a), the Permittee shall maintain records of the quantity of soybeans processed.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the stack exhaust from Stacks AF-1, and AF-3. 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).

(c) To document compliance with Condition D.1.7, the Permittee shall maintain records of the pressure drop across the baghouses. 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).

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### D.1.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.3(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). This is the same report as required in Conditions D.2.1(a) and D.3.1(a).

## SECTION D.4 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:**

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | 12,557 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| I040000 | Tank #4 Biodiesel | 725,000 gals | | |
| I050000 | Tank #5 Biodiesel | 725,000 gals | | |
| I060000 | Tank #6 Biodiesel | 325,000 gals | | |
| I070000 | Tank #7 Biodiesel | 325,000 gals | | |
| I080000 | Tank #8 Biodiesel | 325,000 gals | | |
| I090000 | Tank #9 Biodiesel | 325,000 gals | | |
| I100000 | Tank #10 Biodiesel | 325,000 gals | | |
| I110000 | Tank #11 Biodiesel | 325,000 gals | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| I250000 | Methanol Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I260000 | Methanol Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I270000 | Methanol Storage Tank #3 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I280000 | Methanol Storage Tank #4 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I290000 | Methanol Storage Tank #5 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| I300000 | Methanol Storage Tank #6 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I230000 | Sodium Methylate (catalyst) Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| I240000 | Sodium Methylate (catalyst) Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |
| The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions. | | | | |

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

D.4.1 PSD Minor Limit for VOC [326 IAC 2-2]

(a) The amount of soybean oil processed to manufacture biodiesel shall be limited to less than 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

During the first twelve (12) months after issuance of this Part 70 permit, the total amount of soybeans oil processed shall be limited such that the total soybean oil processed divided by the accumulated months of operation shall not exceed 9,166,667 gallons up to a maximum total of 110,000,000 gallons for the first twelve (12) months.

(b) The following facilities' VOC emissions rates shall be limited as follows:

| Process | Control | VOC (lbs/hour) | Hours of operation limit |
|---|---|---|---|
| Biodiesel manufacturing process Normal operation | Soy oil absorber followed by a water absorber | 0.30 | |
| Biodiesel manufacturing process with methanol tank loading | Soy oil absorber followed by a water absorber | 0.63 | 1,000 hours per twelve (12) consecutive months. |
| Biodiesel manufacturing process upset operation | Soy oil absorber followed by a water absorber | 29.4 | 24 hours per twelve (12) consecutive months. |
| Glycerine storage tanks | None | 0.0011 | |
| Biodiesel wastewater | None | 0.77 | |
| Biodiesel fugitive emissions | LDR as required by 40 CFR 60, Subpart VV | 0.64 | |

(c) The VOC emissions from the biodiesel loading rack shall not exceed 0.02 lbs/kgal.

(d) The maximum throughput rate for the biodiesel loading rack shall not exceed 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

The requirements in Condition D.4.1 are required to limit the potential to emit of VOC from the biodiesel process to less than 100 tons per 12 consecutive month period with compliance determined at the end of each moth.

Conditions D.3.2, D.4.1, D.5.2, and D.6.2 are required to limit the potential to emit of VOC from the entire source to less than 250 tons per 12 consecutive month period.

Compliance with the above limits will render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this source.

D.4.2 VOC BACT Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the Permittee shall limit the volatile organic compound (VOC) emissions from the biodiesel manufacturing process as follows:

| Facility | Control | Emission Limit |
|---|---|---|
| Biodiesel manufacturing process without methanol unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.30 lbs/hr |
| Biodiesel manufacturing process Upset operation | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 95% and a VOC emission rate of 29.4 lbs/hr |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.63 lbs/hr |
| Fugitive emissions | Comply with the provisions of 40 CFR 60, Subpart VV | 2.80 tons/year |

D.4.3 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart NNN]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart NNN (Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations), the Permittee shall reduce emissions of TOC (less methane and ethane) by 98 weight-percent from distillation vent stream on and after the date on which the initial performance test required by 40 CFR 60.8 and 40 CFR 60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the distillation unit will be operated, or 180 days after the initial start-up, whichever date comes first.

D.4.4 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart RRR]

Pursuant to 326 IAC 12 and 40 CFR 60, Subpart RRR (Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes), the Permittee shall operate the reactor with a vent stream flow rate less than 0.011 scm/min.

**Compliance Determination Requirements**

D.4.5 Volatile Organic Compounds (VOC)

In order to comply with Conditions D.4.1(b) and D.4.2, the soy oil absorber and water absorber shall operate at all times that the biodiesel manufacturing process and the methanol tank unloading are in operation.

D.4.6 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, the Permittee shall perform VOC testing on the outlet of water absorber with methanol unloading and without methanol unloading; and determine the soy oil absorber's soy oil flow rate and water absorber's water flow rate to verify

compliance with Condition D.4.1(b), and D.4.2, utilizing methods as approved by the Commissioner.

(b) These tests shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

D.4.7 NSPS NNN Testing Requirements [326 IAC 12] [40 CFR 60.664(g)]]

(a) Pursuant to 40 CFR 60.664(g), the Permittee shall recalculate the TRE index value for the distillation unit whenever process changes are made. The TRE index value shall be recalculated based on test data.

(b) Where the recalculated TRE index value is less than or equal to 1.0, the Permittee shall notify IDEM within one week of the recalculation and shall conduct a performance test according to the methods and procedures required by 40 CFR 60.664 in order to determine compliance with 40 CFR 60.662(a). Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

(c) Where the initial TRE index value is greater than 8.0 and the recalculated TRE index value is less than or equal to 8.0 but greater than 1.0, the owner or operator shall conduct a performance test in accordance with 40 CFR 60.8 and 60.664 and shall comply with 40 CFR 60.663, 60.664 and 60.665. Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

D.4.8 NSPS RRR Testing Requirements [326 IAC 12] [40 CFR 60.704(g)]]

Pursuant to 40 CFR 60.704(g), the Permittee shall use Method 2, 2A, 2C, or 2D of appendix A to 40 CFR Part 60, as appropriate, for determination of volumetric flow rate.

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

D.4.9 Monitoring for soy oil absorber and water absorber

(a) The Permittee shall monitor and record the soy oil flow rate for the soy oil absorber at least once per day.

(b) The Permittee shall monitor and record the water flow rate for the water absorber at least once per day.

(c) A continuous monitoring system shall be calibrated, maintained, and operated on the soy oil absorber for measuring the temperature of the soy oil to the soy oil absorber. 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 a 3-hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the soy oil absorber at or above the 3-hour average temperature as recommended by the manufacturer.

(1) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with the limits in conditions D.4.1(b) and D.4.2, as approved by IDEM.

(2) On and after the date the approved stack test results are available, the Permittee shall operate the soy oil absorber at or above the 3-hour average temperature as observed during the compliant stack test.

(d) A continuous monitoring system shall be calibrated, maintained, and operated for measuring the temperature of the water to the water absorber. 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 a 3-hour average. From the date

of issuance of this permit until the approved stack test results are available, the Permittee shall operate the water absorber at or above the 3-hour average temperature as recommended by the manufacturer.

(1) The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in condition D.4.1(b) and D.4.2, as approved by IDEM.

(2) On and after the date the approved stack test results are available, the Permittee shall operate the water absorber at or above the 3-hour average temperature as observed during the compliant stack test.

(e) If any of the following operating conditions occur, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(1) When the soy oil flow rate reading is below the minimum flow rate for any one reading. The minimum flow rate for the mineral oil absorber will be 78 gpm or the minimum soy oil flow rate established during the latest stack test.

(2) When the water flow rate reading is below the minimum flow rate for any one reading. The minimum flow rate for the water absorber will be 0.22 gpm or the minimum water flow rate established during the latest stack test.

(3) When the soy oil absorber temperature reading is below the minimum temperature for any one reading. The minimum temperature for the soy oil absorber will be as recommended by the manufacturer or the minimum temperature established during the latest stack test.

(4) When the water absorber temperature reading is below the minimum temperature for any one reading. The minimum temperature for the water absorber will be as recommended by the manufacturer or the minimum temperature established during the latest stack test.

(f) A flow rate or temperature reading that is below the minimum flow rate or temperature reading 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.

(g) The instruments used for determining the flow rate and temperature reading shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

(h) The gauges employed to take the soy oil flow and water flow across the soy oil scrubber or water scrubber, respectively, shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within + 10% of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.

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

D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall maintain records of the amount of the soybean oil used to manufacture biodiesel.

(b) To document compliance with Condition D.4.1(b), the Permittee shall maintain records of the operating hours for the biodiesel manufacturing process during the following operating scenarios:

(1) Normal operation with methanol tank loading.

(2) Upset conditions.

(c) To document compliance with Condition D.4.1(d), the Permittee shall maintain records of the amount of the biodiesel loaded out through the biodiesel loading rack.

(d) To document compliance with Condition D.4.9 (a) and (b), the Permittee shall maintain records of the soy oil flow rate of the soy oil absorber, and the water flow rate of the water absorber.

(e) To document compliance with Conditions D.4.9(c) and (d), the Permittee shall maintain records of the readings of the operating temperature of the soy oil scrubber and water scrubber, respectively.

(f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.4.1(a), (b), and (d) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.4.12 NSPS RRR Reporting and Recordkeeping Requirements [40 CFR 60.705]

(a) Pursuant to 40 CFR 60.705(h), The Permittee shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.011 scm/min and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.

(b) Pursuant to 40 CFR 60.705(l), The Permittee shall submit to the IDEM semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.

Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and $E_{TOC}$.

(c) The Permittee must submit to the IDEM an initial report including a flow rate measurement using the test methods specified in 40 CFR 60.704.

**New Source Performance Standard VV**

D.4.13 New Source Performance Standard (NSPS) [326 IAC 12] [40 CFR 60, Subpart VV]

Pursuant to CFR Part 60, Subpart VV, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VV, which are incorporated by reference as 326 IAC 12, for the biodiesel process as specified as follows:

**§ 60.480 Applicability and designation of affected facility.**

(a)(1) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry.

(2) The group of all equipment (defined in §60.481) within a process unit is an affected facility.

(b) Any affected facility under paragraph (a) of this section that commences construction or modification after January 5, 1981, shall be subject to the requirements of this subpart.

(d)(1) If an owner or operator applies for one or more of the exemptions in this paragraph, then the

**§ 60.481 Definitions.**

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act or in subpart A of part 60, and the following terms shall have the specific meanings given them.

*Closed vent system* means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Connector* means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.

*Control device* means an enclosed combustion device, vapor recovery system, or flare.

*Double block and bleed system* means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

*Duct work* means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

*Equipment* means each pump, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this subpart.

*First attempt at repair* means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

*Fuel gas* means gases that are combusted to derive useful work or heat.

*Hard-piping* means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards such as ASME B31.3, Process Piping (available from the American Society of Mechanical Engineers, PO Box 2900, Fairfield, NJ 07007–2900).

*In gas/vapor service* means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

*In light liquid service* means that the piece of equipment contains a liquid that meets the conditions specified in §60.485(e).

*In-situ sampling systems* means nonextractive samplers or in-line samplers.

*In vacuum service* means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

*In VOC service* means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

*Liquids dripping* means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

*Open-ended valve or line* means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Pressure release* means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

*Process improvement* means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

*Process unit* means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in §60.489 of this part. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

*Process unit shutdown* means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

*Quarter* means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

*Repaired* means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

*Sampling connection system* means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take nonroutine grab samples is not considered a sampling connection system.

*Sensor* means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

*Synthetic organic chemicals manufacturing industry* means the industry that produces, as intermediates or final products, one or more of the chemicals listed in §60.489.

*Volatile organic compounds* or VOC means, for the purposes of this subpart, any reactive organic compounds as defined in §60.2 Definitions.

**§ 60.482-1 Standards: General.**

(a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§60.482–1 through 60.482–10 or §60.480(e) for all equipment within 180 days of initial startup.

(b) Compliance with §§60.482–1 to 60.482–10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485.

(c)(1) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, and 60.482–10 as provided in §60.484.

(2) If the Administrator makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, or 60.482–10, an owner or operator shall comply with the requirements of that determination.

(d) Equipment that is in vacuum service is excluded from the requirements of §§60.482–2 to 60.482–10 if it is identified as required in §60.486(e)(5).

**§ 60.482-2 Standards: Pumps in light liquid service.**

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b), except as provided in §60.482–1(c) and paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *Provided* the following requirements are met:

(1) Each dual mechanical seal system is—

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipment with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(2) The barrier fluid system is in heavy liquid service or is not in VOC service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5)(i) Each sensor as described in paragraph (d)(3) is checked daily or is equipped with an audible alarm, and

(ii) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii), a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(iii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in §60.486(e)(1) and (2), for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump:

(1) Has no externally actuated shaft penetrating the pump housing,

(2) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485(c), and

(3) Is tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(f) If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482–10, it is exempt from paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

**§ 60.482-4 Standards: Pressure relief devices in gas/vapor service.**

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482–9.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482–10 is exempted from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §60.482–9.

**§ 60.482-5 Standards: Sampling connection systems.**

(a) Each sampling connection system shall be equipped with a closed-purged, closed-loop, or closed-vent system, except as provided in §60.482–1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482–10; or

(4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in 40 CFR 63.111, if the waste management unit is subject to, and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

**§ 60.482-6 Standards: Open-ended valves or lines.**

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482–1(c).

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

**§ 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.**

(a) Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485(b) and shall comply with paragraphs (b) through (e), except as provided in paragraphs (f), (g), and (h), §60.483–1, 2, and §60.482–1(c).

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts;

(2) Replacement of bonnet bolts;

(3) Tightening of packing gland nuts;

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:

(1) Has no external actuating mechanism in contact with the process fluid,

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485(c), and

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a), and

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

(1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

**§ 60.482-8 Standards: pressure relief devices in light liquid, and connectors.**

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid, and connectors, the owner or operator shall follow either one of the following procedures:

(1) The owner or operator shall monitor the equipment within 5 days by the method specified in §60.485(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.

(2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §60.482–7(e).

**§ 60.482-9 Standards: Delay of repair.**

(a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

(b) Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482–10.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

**§ 60.482-10 Standards: Closed vent systems and control devices.**

(a) Owners or operators of closed vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section.

(e) Owners or operators of control devices used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §60.485(b); and

(ii) Conduct annual inspections according to the procedures in §60.485(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (j)(1) and (j)(2) of this section:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (f)(1)(i) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (f)(2) of this section if they comply with the requirements specified in paragraphs (k)(1) through (k)(3) of this section:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the owner or operator designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

(3) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the information specified in paragraphs (l)(1) through (l)(5) of this section.

(1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each inspection during which a leak is detected, a record of the information specified in §60.486(c).

(4) For each inspection conducted in accordance with §60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

**§ 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.**

(a) An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

(b) The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(1) An owner or operator must notify the Administrator that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487(d).

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with §60.482–7(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

(d) Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.

**§ 60.483-2 Alternative standards for valves—skip period leak detection and repair.**

(a)(1) An owner or operator may elect to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Administrator before implementing one of the alternative work practices, as specified in §60.487(d).

(b)(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482–7.

(2) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in §60.482–7 but can again elect to use this section.

(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(6) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

**§ 60.485 Test methods and procedures.**

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the standards in §§60.482, 60.483, and 60.484 as follows:

(1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(c) The owner or operator shall determine compliance with the no detectable emission standards in §§60.482–2(e), 60.482–3(i), 60.482–4, 60.482–7(f), and 60.482–10(e) as follows:

(1) The requirements of paragraph (b) shall apply.

(2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) The owner or operator shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(1) Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

(e) The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply:

(1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. $H_2O$ at 68 °F) is equal to or greater than 20 percent by weight.

(3) The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with paragraphs (d), (e), and (g) of this section shall be representative of the process fluid that is contained in or contacts the equipment.

**§ 60.486 Recordkeeping requirements.**

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one affected facility subject to the provisions of this subpart may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) “Above 10,000” if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §60.482–10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5.

(e) The following information pertaining to all equipment subject to the requirements in §§60.482–1 to 60.482–10 shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for equipment subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2(e), 60.482–3(i) and 60.482–7(f).

(ii) The designation of equipment as subject to the requirements of §60.482–2(e), §60.482–3(i), or §60.482–7(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4.

(4)(i) The dates of each compliance test as required in §§60.482–2(e), 60.482–3(i), 60.482–4, and 60.482–7(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of §60.482–7(g) and (h) and to all pumps subject to the requirements of §60.482–2(g) shall be recorded in a log that is kept in a readily accessible location:

(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with §60.483–2:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

(1) Design criterion required in §§60.482–2(d)(5) and 60.482–3(e)(2) and explanation of the design criterion; and

(2) Any changes to this criterion and the reasons for the changes.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of §60.7 (b) and (d) do not apply to affected facilities subject to this subpart.

**§ 60.487 Reporting requirements.**

(a) Each owner or operator subject to the provisions of this subpart shall submit semiannual reports to the Administrator beginning six months after the initial startup date.

(b) The initial semiannual report to the Administrator shall include the following information:

(1) Process unit identification.

(2) Number of valves subject to the requirements of §60.482–7, excluding those valves designated for no detectable emissions under the provisions of §60.482–7(f).

(3) Number of pumps subject to the requirements of §60.482–2, excluding those pumps designated for no detectable emissions under the provisions of §60.482–2(e) and those pumps complying with §60.482–2(f).

(c) All semiannual reports to the Administrator shall include the following information, summarized from the information in §60.486:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in §60.482(7)(b) or §60.483–2,

(ii) Number of valves for which leaks were not repaired as required in §60.482–7(d)(1),

(iii) Number of pumps for which leaks were detected as described in §60.482–2(b) and (d)(6)(i),

(iv) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6)(ii),

(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (b) if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of §§60.483–1 or 60.483–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of this subpart except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(f) The requirements of paragraphs (a) through (c) of this section remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.

**§ 60.489 List of chemicals produced by affected facilities.**

The following chemicals are produced, as intermediates or final products, by process units covered under this subpart. The applicability date for process units producing one or more of these chemicals is January 5, 1981.

| CAS No. a | Chemical |
|---|---|

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56-81-5..... Glycerol.

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a CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers, or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Mailing Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Reactor
Parameter: Soy bean oil
Limit: 110,000,000 gallons/twelve months

YEAR:_____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report
## for First Twelve months of Operation

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Mailing Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Reactor
Parameter: Soy bean oil
Limit: (1) 110,000,000 gallons/twelve months
(2) Running monthly average: 9,166,667 gallons

YEAR:_____

| Month | Column 1 | Column 2 | Column 1 + Column 2 | (Column 1 + Column 2) / (Total Months of Operation) |
|---|---|---|---|---|
| | This Month | Previous 11 Months | *Total Months of Operation | Running average up to current month |
| Month 1 | | | | |
| Month 2 | | | | |
| Month 3 | | | | |

* When determining the total usage for previous 11 months, assume zero usage during the months when the source was not in operation.

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

Submitted by:_____

Title / Position: _____

Signature:_____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Mailing Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Manufacturing Process with Methanol Tank Loading
Parameter: Operating Hour
Limit: 1,000 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Mailing Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Manufacturing Process upset operation
Parameter: Operating Hour
Limit: 24 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Mailing Address: 7344 State Road 15 South, Claypool, Indiana 46510-9746
Part 70 Permit No.: T085-21297-00102
Facility: Biodiesel Loading Rack
Parameter: Throughout Rate
Limit: Less than 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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: _____

Attach a signed certification to complete this report.

# Indiana Department of Environmental Management
# Office of Air Quality

## Addendum to the Technical Support Document for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

**Source Background and Description**

| | |
|---|---|
| Source Name: | Louis Dreyfus Agricultural Industries, LLC |
| Source Location: | 7344 State Road 15 South, Claypool, Indiana 46510 |
| County: | Kosciusko |
| SIC Code: | 2075, 2079, and 2869 |
| Operation Permit No.: | T085-21297-00102 |
| Operation Permit Issuance Date: | January 24, 2006 |
| Significant Source Modification No.: | 085-24891-00102 |
| Significant Permit Modification No.: | 085-25147-00102 |
| Permit Reviewer: | ERG/YC |

On October 29, 2007, the Office of Air Quality (OAQ) had a notice published in The Times Union, Kosciusko, Indiana, stating that Louis Dreyfus Agricultural Industries, LLC had applied for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification to increase the soybean oil throughput rate from 80 millions gallons per year to 110 millions gallons per year at the existing biodiesel production plant. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit 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 this permit should be issued as proposed.

On November 28, 2007, the Permittee submitted comments on the proposed Significant Source Modification and the Significant Permit Modification. The summary of the comments is as follows (bolded language has been added, the language with a line through it has been deleted).

**Comment 1:**

The Permittee requested that the descriptions and the unit IDs of the biodiesel day tanks and storage tanks in Condition A.2(d) and Section D.4 be further amended as provided in the table below. This change includes one additional biodiesel tank. The addition of one additional biodiesel tank will not change working losses from the tanks, as the total biodiesel throughput will not change. This tank would result in additional standing losses, which total 163.7 pounds of VOC per year, based on previously submitted TANKS calculations.

| Unit ID | Description | Capacity |
|---|---|---|
| I040000 | Tank #4 Biodiesel | 725,000 gallons |
| I050000 | Tank #5 Biodiesel | 725,000 gallons |
| I060000 | Tank #6 Biodiesel | 350,000 gallons |
| I070000 | Tank #7 Biodiesel | 350,000 gallons |
| I080000 | Tank #8 Biodiesel | 350,000 gallons |
| I090000 | Tank #9 Biodiesel | 350,000 gallons |
| I100000 | Tank #10 Biodiesel | 350,000 gallons |
| I110000 | Tank #11 Biodiesel | 350,000 gallons |

**Comment 2:**

The Permittee stated that several emission units associated with the biodiesel processing equipment listed in Condition A.2(d) and Section D.4 that are listed with a capacity of 9,132 gallons per hour should be changed to 12,557 gallons per hour. This is the result of increasing the annual biodiesel production capacity from 80,000,000 gallons per year to 110,000,000 gallons per year. This includes the 1st Loop Transesterification Reactor (Unit ID TR010000), the 2nd Loop Transesterification Reactor (Unit ID TR020000), the 3rd Transesterification Reactor (Unit ID TR030000), and the Vacuum Group Package (Unit ID VU010000).

**Comment 3:**

The Permittee stated that the Unit IDs for the five (5) methanol storage tanks in Condition A.2(d) and Section D.4 should be changed to I250000, I260000, I270000, I280000, and I290000 respectively. In addition, there is one (1) additional methanol storage tank, designated as Methanol Storage Tank #6, with Unit ID I300000 and capacity of 19,400 gallons. The addition of this tank will not change potential emissions from the facility, as all tanks are vented to the Biodiesel Soy Oil Absorber and Biodiesel Water Absorber, and allowable limits from these exhausts will not change.

**Comment 4:**

The Permittee stated that the tank identified as Methoxide (catalyst) Storage (Unit ID ES010000) listed in Condition A.2(d) and Section D.4 should be changed to be described as Sodium Methylate (catalyst) Storage Tank #1, with Unit ID I230000. In addition, a second tank, described as Sodium Methylate (catalyst) Storage Tank #2, with Unit ID I240000 should be added. The addition of this tank will not change potential emissions from the facility, as the two tanks are vented to the Biodiesel Soy Oil Absorber and Biodiesel Water Absorber, and allowable limits from these exhausts will not change.

**Response to Comments 1 through 4:**

The PTE for the additional biodiesel storage tank (I110000), methanol storage tank #5 (I300000), and Sodium Methylate (catalyst) storage tank (I240000) is less than the exemption thresholds in 326 IAC 2-1.1-3(e). Therefore, the requirements of 326 IAC 2-7.10.5 (Part 70 Source Modification) are not applicable to the construction of these units and may be administratively changed in the permit after the public notice period. The proposed new storage tanks are subject to the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (NSPS, Subpart VV). However, the requirements of this NSPS have already been included in their current Part 70 permit. Therefore, the proposed new storage tanks will not trigger new applicable requirements. Therefore, the unit descriptions in Condition A.2(d) and Section D.4 have been revised as follows to reflect the additional storage tanks and to revise the unit descriptions and unit IDs as requested:

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 to be constructed in 2006:

. . .

(d)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| ~~BD010000~~ **I040000** | ~~Biodiesel Day~~ Tank #~~1~~**4 Biodiesel** | 725,000 gals | | |
| ~~BD020000~~ **I050000** | ~~Biodiesel Day~~ Tank #~~2~~**5 Biodiesel** | 725,000 gals | | |
| ~~BD030000~~ **I060000** | ~~Biodiesel Storage~~ Tank #~~1~~**6 Biodiesel** | 325,000 gals | | |
| ~~BD040000~~ **I070000** | ~~Biodiesel Storage~~ Tank #~~2~~**7 Biodiesel** | 325,000 gals | | |
| ~~BD050000~~ **I080000** | ~~Biodiesel Storage~~ Tank #~~3~~**8 Biodiesel** | 325,000 gals | | |
| ~~BD060000~~ **I090000** | ~~Biodiesel Storage~~ Tank #~~4~~**9 Biodiesel** | 325,000 gals | | |
| ~~BD070000~~ **I100000** | ~~Biodiesel Storage~~ Tank #~~5~~**10 Biodiesel** | 325,000 gals | | |
| **I110000** | **Tank #11 Biodiesel** | **325,000 gals** | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| ~~LS010000~~ **I250000** | Methanol Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS020000~~ **I260000** | Methanol Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS030000~~ **I270000** | Methanol Storage Tank #3 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS040000~~ **I280000** | Methanol Storage Tank #4 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS050000~~ **I290000** | Methanol Storage Tank #5 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| **I300000** | **Methanol Storage Tank #6** | **19,400 gallons** | **Soy oil absorber and water absorber** | **Stack S-5** |
| ~~ES010000~~ **I230000** | ~~Methoxide~~ **Sodium Methylate** (catalyst) Storage **Tank #1** | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| **I240000** | **Sodium Methylate (catalyst) Storage Tank #2** | **19,400 gallons** | **Soy oil absorber and water absorber** | **Stack S-5** |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |

. . .

**SECTION D.4 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | ~~9132~~ **12,557** gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| ~~BD010000~~ **I040000** | ~~Biodiesel Day~~ Tank #~~1~~**4 Biodiesel** | 725,000 gals | | |
| ~~BD020000~~ **I050000** | ~~Biodiesel Day~~ Tank #~~2~~**5 Biodiesel** | 725,000 gals | | |
| ~~BD030000~~ **I060000** | ~~Biodiesel Storage~~ Tank #~~1~~**6 Biodiesel** | 325,000 gals | | |
| ~~BD040000~~ **I070000** | ~~Biodiesel Storage~~ Tank #~~2~~**7 Biodiesel** | 325,000 gals | | |
| ~~BD050000~~ **I080000** | ~~Biodiesel Storage~~ Tank #~~3~~**8 Biodiesel** | 325,000 gals | | |
| ~~BD060000~~ **I090000** | ~~Biodiesel Storage~~ Tank #~~4~~**9 Biodiesel** | 325,000 gals | | |
| ~~BD070000~~ **I100000** | ~~Biodiesel Storage~~ Tank #~~5~~**10 Biodiesel** | 325,000 gals | | |
| **I110000** | **Tank #11 Biodiesel** | **325,000 gals** | | |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| ~~LS010000~~ **I250000** | Methanol Storage Tank #1 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS020000~~ **I260000** | Methanol Storage Tank #2 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS030000~~ **I270000** | Methanol Storage Tank #3 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS040000~~ **I280000** | Methanol Storage Tank #4 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| ~~LS050000~~ **I290000** | Methanol Storage Tank #5 | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| **I300000** | **Methanol Storage Tank #6** | **19,400 gallons** | **Soy oil absorber and water absorber** | **Stack S-5** |
| ~~ES010000~~ **I230000** | ~~Methoxide~~ **Sodium Methylate** (catalyst) Storage **Tank #1** | 19,400 gallons | Soy oil absorber and water absorber | Stack S-5 |
| **I240000** | **Sodium Methylate (catalyst) Storage Tank #2** | **19,400 gallons** | **Soy oil absorber and water absorber** | **Stack S-5** |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |
| The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions. | | | | |

**Comment 5:**

On page 6 of the Technical Support Document (TSD), the third paragraph under item (a) refers to “components of the ethanol plant”. Dreyfus believes this reference should read “components of the biodiesel plant”.

**Response to Comment 5:**

IDEM acknowledges this error in the TSD. However, no changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification

### Source Description and Location

| | |
|---|---|
| Source Name: | Louis Dreyfus Agricultural Industries, LLC |
| Source Location: | 7344 State Road 15 South, Claypool, Indiana 46510 |
| County: | Kosciusko |
| SIC Code: | 2075, 2079, and 2869 |
| Operation Permit No.: | T085-21297-00102 |
| Operation Permit Issuance Date: | January 24, 2006 |
| Significant Source Modification No.: | 085-24891-00102 |
| Significant Permit Modification No.: | 085-25147-00102 |
| Permit Reviewer: | ERG/YC |

### Existing Approvals

The source was issued Part 70 Operating Permit No. 085-21297-00102 on January 24, 2006. No approvals have been issued to this source since the issuance of this Part 70 permit.

### County Attainment Status

The source is located in Kosciusko County.

| Pollutant | Status |
|---|---|
| PM10 | Attainment |
| PM2.5 | Attainment |
| $SO_2$ | Attainment |
| $NO_2$ | Attainment |
| 8-hour Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

**Note:** On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

(a) Kosciusko County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(b) Volatile organic compounds (VOC) emissions and Nitrogen Oxides (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Kosciusko County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions
This existing source consists of a soybean oil extraction (primary operation) plant and a biodiesel production plant. The primary operation at this source (soybean oil extraction) does not fall under one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and there is no applicable New Source Performance Standard that was in effect on August 7, 1980. Therefore fugitive emissions are not counted toward the determination of PSD applicability for the primary operation at this source.

However, the biodiesel production plant at this source is considered one of the 28 source categories under 326 IAC 2-2 (a chemical process plant) and is considered "nested" within a non-listed source. Therefore, fugitive emissions from the biodiesel production plant located at this source are counted for purposes of determining whether a source is a major source under the PSD, Emission Offset, nonattainment NSR, or Title V programs.

## Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| Pollutant | PTE of the Entire Source (tons/year) | PTE of the Biodiesel Production Plant (tons/year) |
|---|---|---|
| PM | 143 | - |
| PM10 | 104 | - |
| $SO_2$ | 249 | - |
| VOC | 238 | 12.1 |
| CO | 85.1 | - |
| $NO_x$ | 66.5 | - |

(a) This existing source consists of a soybean oil extraction plant (primary operation) and a biodiesel production plant. Based on the PSD guidance for "nesting activities", these facilities will be nested for PSD applicability determination.

(1) The entire source, including the soybean oil extraction plant and the biodiesel production plant, is a minor stationary source, under PSD (326 IAC 2-2) because none of the regulated pollutants is emitted at a rate of 250 tons per year or more, and it is not in one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(2) The biodiesel production plant at this source is considered one of the 28 source categories and is considered "nested" within a non-listed source. The potential to emit of the biodiesel production plant is limited to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the biodiesel production plant at this source.

(b) These emissions are based upon the Addendum to the Technical Support Document (TSD) for T085-21297-00102 issued on January 24, 2006.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

| HAPs | Potential To Emit (tons/year) |
|---|---|
| A Single HAP | Greater than 10 |
| Total | Greater than 25 |

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

## Actual Emissions

This source is currently under construction. No previous emission data has been received from the source.

## Description of Proposed Modification

Louis Dreyfus Agricultural Industries, LLC is a new soybean oil, soybean meal, and biodiesel manufacturing plant which was permitted to construct and to operate in T085-21297-00102, issued on January 24, 2006. This new plant is currently under construction. On June 4, 2007, June 18, 2007, and September 21, 2007, IDEM received applications from the Permittee requesting the following changes to be made in their Part 70 permit:

1. Increasing the throughput rate limit for the soybean oil processed to manufacture biodiesel from 80 million gallons per year to 110 million gallons per year.

2. Revising the emission limits listed in Condition D.4.1(b) for the biodiesel manufacturing process as follows:

| Process | VOC Emission Limit (lbs/hr) |
|---|---|
| Glycerine Storage Tanks | ~~0.0008~~ **0.0011** |
| Biodiesel Wastewater Treatment | ~~0.56~~ **0.77** |
| Biodiesel Fugitive Emissions | ~~1.01~~ **0.64** |

The changes in the emission limit for the glycerine storage tanks and the biodiesel wastewater treatment is the result of increasing the biodiesel production rate from 80 million gallons per year to 110 million gallons per year. The Permittee stated that they re-calculated the biodiesel fugitive emissions for equipment leaks based on the actual numbers of lines, pumps, sample/drains, relief valves, agitator seals, and valves constructed at this source, which are less than the numbers listed in the construction permit application for this production line.

3. The Permittee proposed the following description changes to the existing biodiesel manufacturing process:

   (a) Methanol storage tanks and the methoxide (catalyst) storage tank are controlled by the soy oil absorber and water absorber, and vent through Stack S-5.

   (b) According to the additional information submitted on October 11, 2007, there are seven (7) biodiesel storage tanks located at this source. Two (2) of them are 725,000 gallon storage tanks and five (5) of them are 325,000 gallons storage tanks. The number of biodiesel storage tanks and the capacity for each tank in the Part 70 permit are incorrect and should be revised.

Therefore, the unit descriptions for these units in Condition A.2 and Section D.4 of the permit have been revised.

4. Since the methanol storage tanks and methoxide (catalyst) storage tank vent through Stack S-5 and the emissions from stack S-5 are limited by Condition D.4.1(b), the separate VOC emission limits for the methanol storage tanks and the methoxide storage tank in Condition D.4.1(b) are not necessary and can be removed from the permit.

5. The hourly capacity of Truck Dump No. 1 (identified as A030000), Truck Dump No. 2 (identified as A020000), and grain conveyors A030100, A020100, A040000, A050000, A100100, A120100, A13100, A150100, and A160100 should be 600 tons per hour based on the physical design of these units, instead of 360 tons per hour which was bottlenecked by the downstream units. The grain receiving area, including the truck dumps, is controlled by baghouse AF-1. The grain conveyors are enclosed and aspirated to either baghouse AF-1 or baghouse AF-3. Since the existing PM/PM10 limits in Condition D.1.3(b) for baghouses AF-1 and AF-3 were established based on the maximum design outlet grain loading and the maximum air flow rate of the baghouses, the changes in the maximum capacities for the truck dumps and the conveyors specified above will not affect the PM/PM10 emission limits for baghouses AF-1 and AF-3.

   Since the primary operation at this source is the soybean oil extraction plant and it is not considered to be in one of the 28 source categories defined in 326 IAC 2-2 (PSD), fugitive emissions from the grain receiving operations are not counted toward the determination of PSD applicability for the soybean oil extraction plant. Therefore, the PSD minor limits for the fugitive PM/PM10 emissions from the truck and rail receiving operations in Condition D.1.3(b) are not necessary and have been removed from the permit.

6. The source location and mailing address of this source should be changed to 7344 State Road 15 South, Claypool, Indiana 46510-9746 and the general phone number of this source is (574) 566-2100.

7. In order to increase operational flexibility and since methanol tank loading occurs infrequently, the source has requested a limit on the methanol tank loading (1,000 hours per twelve consecutive months). This limit will restrict the worst case emission rate as shown in the calculations. Condition D.4.1(b) has been revised to include this limit and a quarterly reporting form has also been added to the permit.

## Enforcement Issues

There are no pending enforcement actions related to this modification.

## Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 through 5).

## Permit Level Determination – Part 70

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.”

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.

| Pollutant | Potential To Emit (tons/year)* |
|---|---|
| PM | - |
| PM10 | - |
| $SO_2$ | - |
| VOC | Greater than 100 |
| CO | - |
| $NO_x$ | - |

| HAPs | Potential To Emit (tons/year)* |
|---|---|
| Methanol | Greater than 10 |
| TOTAL | Greater than 25 |

*Note: There will no physical changes to the biodiesel manufacturing process. The PTE listed in the table above represents the uncontrolled PTE of this manufacturing process.

There will be no physical changes to the biodiesel manufacturing process. However, the increase in the biodiesel throughput limit requires a re-evaluation of the VOC BACT for this process. This modification is being performed through a Part 70 Significant Source Modification because this modification is subject to 326 IAC 8-1-6 (BACT), pursuant to 326 IAC 2-7-10.5(f)(2). The permit modification is being performed through a Part 70 Significant Permit Modification pursuant to 326 IAC 2-7-12(d) because this modification changes the PSD minor limits in the existing Part 70 permit and involves significant changes to the existing reporting requirements.

**Permit Level Determination – PSD**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

| | Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/facility | PM | PM-10 | $SO_2$ | VOC | CO | $NO_X$ | HAPs |
| Biodiesel Manufacturing Process | - | - | - | Less than 1.92 | - | - | Less than 1.92 |
| Biodiesel Loading Rack | - | - | - | Less than 1.28 | - | - | Less than 1.28 |
| Biodiesel Storage Tanks | - | - | - | 3.27 | - | - | 3.27 |
| Glycerine Storage Tanks | - | - | - | 0.005 | - | - | - |
| Biodiesel Wastewater Treatment | - | - | - | 3.37 | - | - | Negligible |
| Equipment Leaks (Fugitive) | - | - | - | 2.80 | - | - | 2.80 |
| Total PTE of the Biodiesel Production Plant | - | - | - | Less than 12.6 | - | - | Less than 9.27 |
| PSD Major Source Thresholds* | 100 | 100 | 100 | 100 | 100 | 100 | NA |

* The biodiesel production plant is a nested source and is in one of the 28 source categories. Therefore, the PSD major source threshold for the biodiesel production plant is 100 tons per year and the fugitive emissions are counted as part of the total PTE for PSD review purposes.

This modification to an existing PSD minor stationary source is not major because the emissions increase from this modification is limited to less than the PSD major source thresholds for the biodiesel production plant. Therefore, the requirements of PSD (326 IAC 2-2) do not apply to this modification.

Combined with the VOC emissions from soybean oil and soybean meal production processes (primary operations) at this source, the total VOC emissions from the entire source are still limited to less than 250 tons per year. Therefore, this source remains a PSD minor source after this modification.

**Federal Rule Applicability Determination**

(a) The biodiesel production line is considered a synthetic organic chemical manufacturing industry, because it produces glycerol, which is listed in 40 CFR 60.789 and this production line was constructed after January 5, 1981. Therefore each pump, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or any other connector in VOC service are subject to the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (40 CFR 60.480-60.489, Subpart VV and 326 IAC 12).

Affected facilities under this NSPS include leaks from the various components assembled to produce biodiesel. Non applicable portions of the NSPS will not be included in the permit. The following portions of 40 CFR 60, Subpart VV have been included in the current Part 70 permit:

(a) 40 CFR 60.480
(b) 40 CFR 60.481
(c) 40 CFR 60.483.1
(d) 40 CFR 60.483.2
(e) 40 CFR 60.484
(f) 40 CFR 60.486
(g) 40 CFR 60.487
(h) 40 CFR 60.489

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1-1, apply to the equipment leaks from components of the ethanol plant, except when otherwise specified in 40 CFR 60, Subpart VV.

(b) The distillation unit of the biodiesel manufacturing process is part of a process unit that produces glycerol, which is listed in 40 CFR 60.667 and the distillation unit was constructed after December 30, 1983. However, the distillation unit at this source does not discharge its vent stream into a recovery system. Therefore, the distillation unit of the biodiesel manufacturing process at this source is to subject to the Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (40 CFR 60.660-60.668, Subpart NNN and 326 IAC 12).

The Total Resource Effectiveness (TRE) was calculated using the two equations in 40 CFR 60.664(f) with results of 472 and 156. Facilities with TRE greater than 8.0 are subject only to 40 CFR 60.662, 40 CFR 60.664(e), (f), and (g); and 40 CFR 665(h) and (l). Marcia Mia of U.S. EPA in an email to Erik Hardin, U.S. EPA, Region 5 stated that an amendment dated October 17, 2000 changed 40 CFR 60.664(d), (e), and (f) to 40 CFR 60.664(e), (f), and (g). Therefore, the corrected citation for 40 CFR 60.664(d), (e), and (f) should be 40 CFR 60.664(e), (f), and (g).

The Permittee has opted to comply with 40 CFR 60.662(a) by reducing the TOC (less methane and ethane) by 98 weight percent from the distillation unit. The Permittee has opted to comply with 40 CFR 60.662(a), therefore 40 CFR 60.664(e), (f), and (g); and 40 CFR 60.665(h) do not apply to the distillation unit.

(c) The reactor unit is part of a biodiesel manufacturing process that produces glycerol, which is listed in 40 CFR 60.707, and was constructed after June 29, 1990. Therefore, the reactor of the biodiesel manufacturing process is subject to the Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes (40 CFR 60.700-60.708, Subpart RRR and 326 IAC 12).

The reactor's vent flow rate is less than 0.011 scm/min (0.39 scfm), therefore, this unit is exempt from all provisions of this subpart except for the test method and procedure and the

record-keeping and reporting requirements in 40 CFR 60.704(g) and 40 CFR 60.705 (h), (l)(4), and (o).

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to this modification.

(e) The proposed modification does involve a pollutant-specific emissions unit (biodiesel manufacturing process) as defined in 40 CFR 64.1:

(1) With the potential to emit VOC before controls equal to or greater than the major source threshold.

(2) That is subject to an emission limitation or standard; and

(3) Uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR 64 (Compliance Assurance Monitoring) are applicable. Since the post control VOC emissions are less than 100 tons per year, the CAM plan for the biodiesel manufacturing process shall be submitted with the Title V permit renewal application.

## State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

**State Rule Applicability - Biodiesel Production Line**

326 IAC 2-2 (PSD)

This source was constructed in 2006 and modified in 2007. The biodiesel production line is considered to be in one of 28 source categories. The main operation at this source (soybean oil and soybean meal production) is not considered in one of 28 source categories. The potential to emit VOC before control from the biodiesel production line is greater than 100 tons per year. In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

(a) The amount of soybean oil processed to manufacture biodiesel shall be limited to less than 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

During the first twelve (12) months after issuance of this Part 70 permit, the total amount of soybeans oil processed shall be limited such that the total soybean oil processed divided by the accumulated months of operation shall not exceed 9,166,667 gallons up to a maximum total of 110,000,000 gallons for the first twelve (12) months.

(b) The Permittee shall comply with the emission limits and operating hour limits listed in the table below:

| Process | Control | VOC Emission Limit (lbs/hour) | Operating Hour Limit (hrs/yr) |
|---|---|---|---|
| Biodiesel manufacturing process - normal operation | Soy oil absorber followed by a water absorber | 0.30 | N/A |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | 0.63 | 1,000 |
| Biodiesel manufacturing process - upset operation | Soy oil absorber followed by a water absorber | 29.4 | 24 |
| Glycerine storage tanks | None | 0.0011 | N/A |
| Biodiesel wastewater | None | 0.77 | N/A |
| Biodiesel fugitive emissions | LDR as required by 40 CFR 60, Subpart VV | 0.64 | N/A |

(c) The VOC emissions from the biodiesel loading rack shall not exceed 0.02 lbs/kgal.

(d) The maximum throughput rate for the biodiesel loading rack shall not exceed 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

The above limits are equivalent to a total of 12.6 tons per year of VOC emissions. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable. Combined with the VOC emissions from the soybean oil and soybean meal production processes, the potential to emit VOC from the entire source is less than 250 tons per year. Therefore, this source remains a PSD minor source after this modification.

326 IAC 2-4.1 (New Sources of Hazardous Air Pollutants)

HAP emissions from this the biodiesel production line are VOC-HAP. Since the VOC emissions from the biodiesel production is limited to less than 10 tons per year, this modification is not major for HAPs. Therefore, the requirements of 326 IAC 2-4.1(MACT) are not applicable.

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The biodiesel manufacturing process was constructed after January 1, 1980 and has potential VOC emissions greater than 25 tons per year. There are no other rules in 326 IAC 8 applicable to this process. Therefore, the biodiesel manufacturing process is subject to 326 IAC 8-1-6 and the Permittee is required to control VOC emissions using the Best Available Control Technology (BACT). Based on the information in Appendix B, BACT for the biodiesel manufacturing process has been determined to be the following:

| Facility | Control | Emission Limit |
|---|---|---|
| Biodiesel manufacturing process without methanol unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.30 lbs/hr |
| Biodiesel manufacturing process Upset operation | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 95% and a VOC emission rate of 29.4 lbs/hr |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.63 lbs/hr |
| Fugitive emissions | Comply with the provisions of 40 CFR 60, Subpart VV | 2.80 tons/year |

The potential VOC emissions from the biodiesel loading rack, storage tanks, and biodiesel wastewater are each less than 25 tons per year. Therefore, these units are not subject to the requirements of 326 IAC 8-1-6 (BACT).

**Testing Requirements**

In order to demonstrate compliance with the PSD minor and VOC BACT limits, the Permittee shall perform VOC testing for the diesel manufacturing process (Stack S-5) with methanol unloading and without methanol unloading within 60 days after achieving the maximum capacity but not later than 180 days after initial startup. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration.

**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 modification are as follows:

| Control | Parameter | Frequency | Range/Minimum Value | Excursions and Exceedances |
|---|---|---|---|---|
| Soy oil absorber | Soy oil flow rate | Daily | Minimum flow rate as recommended by the manufacturer or the flow rate established during the latest stack test | Response steps |
| | Continuous temperature measurement to determine 3-hour average of soy oil temperature | Continuous | Minimum temperature as recommended by the manufacturer or the minimum temperature established during the latest stack test | Response steps |
| Water absorber | Water flow rate | Daily | Minimum flow rate as recommended by the manufacturer or the flow rate established during the latest stack test | Response steps |
| | Continuous temperature measurement to determine 3-hour average of water temperature | Continuous | Minimum temperature as recommended by the manufacturer or the minimum temperature established during the latest stack test | Response steps |

**Proposed Changes**

The changes listed below have been made to Part 70 Operating Permit No. 085-21297-00102. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

1. The phone number, facsimile number, and zip code for IDEM have been updated and the specific mail codes (MC) for each of the IDEM branches have been added to improve mail delivery, as follows:

100 North Senate Avenue
Indianapolis, Indiana 46204**-2251**
Telephone Number: ~~317-233-5674~~ **317-233-0178**
Facsimile Number: ~~317-233-5967~~ **317-233-6865**

Permits Branch: **MC 61-53 IGCN 1003**
Compliance Branch: **MC 61-53 IGCN 1003**
Air Compliance Section: **MC 61-53 IGCN 1003**
Compliance Data Section: **MC 61-52 IGCN 1003**
Asbestos Section: **MC 61-52 IGCN 1003**
Technical Support and Modeling: **MC 61-50 IGCN 1003**

2. IDEM has decided to make a change to the procedures related to the responsible offical. Although IDEM will continue to evaluate whether a responsible official meets the requirements of 326 IAC 2-7-1 (34), the name and/or title of the responsible official will no lonager be listed in the permit. In addition, the mailing address and the gneral phone number have been changed. Therefore, Condition A.1 has been revised as follows:

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

. . .

| | |
|---|---|
| ~~Responsible Official:~~ | ~~Bradley Johannes, Vice President~~ |
| Source Address: | ~~East of SR 15 between CR 700 S and CR 800 S~~ **7344 State Road 15 South**, Claypool, Indiana 46510**-9746** |
| Mailing Address: | ~~4800 Main, Suite 107, Kansas City, MO 64112~~ **7344 State Road 15 South, Claypool, Indiana 46510-9746** |
| General Source Phone Number: | ~~Not Available~~ **(574) 566-2100** |

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The changes to the source address and the mailing address have been made throughout the whole permit.

3. The following changes are the result of this modification:

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 to be constructed in 2006:

(a)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A030000 | Truck Dump No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A020000 | Truck Dump No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A030100 | Discharge Conveyor No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A020100 | Discharge Conveyor No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF1 |
| A040000 | Bean Receiving Leg No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A050000 | Bean Receiving Leg No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A170100 | Screenings Tank Feed Conveyor | 5 | Grain Receiving Baghouse | Stack AF-1 |
| A010000 | Rail Collection Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A070000 | Screener No. 1 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A060000 | Screener No. 2 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A010090 | Rail Scale Dump | 330 | Grain Receiving Baghouse | Stack AF-1 |
| A010100 | Rail Scale Discharge Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A150100 | Cross Bin No 1 thru 3 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A120100 | Cross Bin No 4 thru 6 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A151000 | Discharge Bin No 1 thru 3 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A121000 | Discharge Bin No 4 thru 6 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A153000 | Day Bin Leg | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A160100 | Feed Day Tank Conveyor | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| AF-1 A20000 | Grain Receiving Baghouse | 21,900 acfm @ 0.005 grain/acf outlet gr loading | | Stack AF1 |
| A160000 | Day Bin Vent | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A170000 | Screenings Tank | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170300 | Screenings Recycle Leg | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170400 | Screenings Reclaim Conveyor | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011300 | Bean Weigh Scale | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B310000 | Screenings Weight Belt | 5 | Prep exhaust baghouse | Stack AF-3 |
| B310300 | Destoner | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011200 | VSC Feed Leg | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B160300 | VSC Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010100 | Whole Bean Aspirator No 1 | 192.5 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| B020100 | Whole Bean Aspirator No 2 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010900 | Whole Bean Aspirator Cyclone | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B030800 | Conditioned Bean Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A152000 | West Bin Cross Conveyor 1-3 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A122000 | East Bin Cross Conveyor 4-6 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A130100 | West Bin Feed Conveyor | ~~360~~ **600** | Prep exhaust baghouse | Stack AF-3 |
| A100100 | East Bin Feed Conveyor | ~~360~~ **600** | Prep exhaust baghouse | Stack AF-3 |
| B030900 | Hull Collection Conveyor | 0.02 | Prep exhaust baghouse | Stack AF-3 |
| E130200 | Screening Refining Conveyor | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130000 | Hull Screener No.1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150000 | Hull Screener No.2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130100 | Secondary Aspirator No 1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150100 | Secondary Aspirator No 2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E160000 | Secondary Aspirator Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070300 | 4 Hour Hull Tank | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070100 | Pellet Mill / Conditioner | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E080000 | Pellet Cooler | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E090000 | Pellet Cooler Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050200 | Hull Hammer Mill Feeder | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050000 | Hull Hammer Mill | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050100 | Hull Hammer Mill Plenum | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G140000 | Hull Pellet Rail Loadout | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050100 | Pelleted Hulls Leg | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050200 | Pelleted Hulls Storage Conveyor | 15 | Prep exhaust baghouse | Stack AF-3 |
| E070400 | Hull Receiver Cyclone | 125 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| AF-3 G100000 | Prep exhaust baghouse | 29,500 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-3 |
| G060000 | Pelleted Hulls Truck Loadout | | Hull Bin Filter | |
| G080000 | Ground Hulls Truck Loadout | | Hull Bin Filter | |

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(d)

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| BD010000 | Biodiesel Day Tank #1 | ~~164,000~~ **725,000** gals | | |
| BD020000 | Biodiesel Day Tank #2 | ~~164,000~~ **725,000** gals | | |
| BD030000 | Biodiesel Storage Tank #1 | ~~164,000~~ **325,000** gals | | |
| BD040000 | Biodiesel Storage Tank #2 | ~~164,000~~ **325,000** gals | | |
| BD050000 | Biodiesel Storage Tank #3 | ~~164,000~~ **325,000** gals | | |
| BD060000 | Biodiesel Storage Tank #4 | ~~164,000~~ **325,000** gals | | |
| **BD070000** | **Biodiesel Storage Tank #5** | **325,000 gals** | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| LS010000 | Methanol Storage Tank #1 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS020000 | Methanol Storage Tank #2 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS030000 | Methanol Storage Tank #3 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS040000 | Methanol Storage Tank #4 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS050000 | Methanol Storage Tank #5 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| ES010000 | Methoxide (catalyst) Storage | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |

**SECTION D.1 FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]:

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A030000 | Truck Dump No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A020000 | Truck Dump No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A030100 | Discharge Conveyor No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A020100 | Discharge Conveyor No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF1 |
| A040000 | Bean Receiving Leg No. 1 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A050000 | Bean Receiving Leg No. 2 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A170100 | Screenings Tank Feed Conveyor | 5 | Grain Receiving Baghouse | Stack AF-1 |
| A010000 | Rail Collection Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A070000 | Screener No. 1 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A060000 | Screener No. 2 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A010090 | Rail Scale Dump | 330 | Grain Receiving Baghouse | Stack AF-1 |
| A010100 | Rail Scale Discharge Conveyor | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A150100 | Cross Bin No 1 thru 3 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| A120100 | Cross Bin No 4 thru 6 | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| A151000 | Discharge Bin No 1 thru 3 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A121000 | Discharge Bin No 4 thru 6 | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A153000 | Day Bin Leg | 360 | Grain Receiving Baghouse | Stack AF-1 |
| A160100 | Feed Day Tank Conveyor | ~~360~~ **600** | Grain Receiving Baghouse | Stack AF-1 |
| AF-1 A20000 | Grain Receiving Baghouse | 21,900 acfm @ 0.005 grain/acf outlet gr loading | | Stack AF1 |
| A160000 | Day Bin Vent | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A170000 | Screenings Tank | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170300 | Screenings Recycle Leg | 5 | Prep exhaust baghouse | Stack AF-3 |
| A170400 | Screenings Reclaim Conveyor | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011300 | Bean Weigh Scale | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B310000 | Screenings Weight Belt | 5 | Prep exhaust baghouse | Stack AF-3 |
| B310300 | Destoner | 5 | Prep exhaust baghouse | Stack AF-3 |
| B011200 | VSC Feed Leg | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B160300 | VSC Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010100 | Whole Bean Aspirator No 1 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B020100 | Whole Bean Aspirator No 2 | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B010900 | Whole Bean Aspirator Cyclone | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| B030800 | Conditioned Bean Feed Conveyor | 192.5 | Prep exhaust baghouse | Stack AF-3 |
| A152000 | West Bin Cross Conveyor 1-3 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A122000 | East Bin Cross Conveyor 4-6 | 360 | Prep exhaust baghouse | Stack AF-3 |
| A130100 | West Bin Feed Conveyor | ~~360~~ **600** | Prep exhaust baghouse | Stack AF-3 |
| A100100 | East Bin Feed Conveyor | ~~360~~ **600** | Prep exhaust baghouse | Stack AF-3 |
| B030900 | Hull Collection Conveyor | 0.02 | Prep exhaust baghouse | Stack AF-3 |
| E130200 | Screening Refining Conveyor | 9.6 | Prep exhaust baghouse | Stack AF-3 |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| E130000 | Hull Screener No.1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150000 | Hull Screener No.2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E130100 | Secondary Aspirator No 1 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E150100 | Secondary Aspirator No 2 | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E160000 | Secondary Aspirator Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070300 | 4 Hour Hull Tank | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E070100 | Pellet Mill / Conditioner | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E080000 | Pellet Cooler | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E090000 | Pellet Cooler Cyclone | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050200 | Hull Hammer Mill Feeder | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050000 | Hull Hammer Mill | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| E050100 | Hull Hammer Mill Plenum | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G140000 | Hull Pellet Rail Loadout | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050100 | Pelleted Hulls Leg | 9.6 | Prep exhaust baghouse | Stack AF-3 |
| G050200 | Pelleted Hulls Storage Conveyor | 15 | Prep exhaust baghouse | Stack AF-3 |
| E070400 | Hull Receiver Cyclone | 125 | Prep exhaust baghouse | Stack AF-3 |
| AF-3 G100000 | Prep exhaust baghouse | 29,500 acfm @ 0.005 grain/acf outlet grain loading | | Stack AF-3 |
| G060000 | Pelleted Hulls Truck Loadout | | Hull Bin Filter | |
| G080000 | Ground Hulls Truck Loadout | | Hull Bin Filter | |

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D.1.3 PSD Minor Limit for Particulate [326 IAC 2-2]

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(b) The following facility's PM, and PM10 emissions rates shall be limited as follows:

| Process | Control | PM Limit (lbs/hour) | PM Limit (lbs/hour) |
|---|---|---|---|
| Grain Receiving | Baghouse AF-1 | 0.939 | 0.939 |
| Prep Area | Baghouse AF-3 | 1.26 | 1.26 |
| ~~Truck Receiving # 1 and #2 Fugitive~~ | | ~~1.78~~ | ~~0.464~~ |
| ~~Rail Receiving Fugitive~~ | | ~~0.576~~ | ~~0.140~~ |

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D.1.9 Record Keeping Requirements

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(b) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of the stack exhaust from Stacks AF-1, and AF-3. **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).**

(c) To document compliance with Condition D.1.7, the Permittee shall maintain records of the pressure drop across the baghouses. **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).**

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**SECTION D.4 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:**

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| TR010000 | 1st loop transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR020000 | 2nd loop transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| TR030000 | 3rd transesterification reactor | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| VU010000 | Vacuum group package | 9132 gals/hr | Soy oil absorber and water absorber | Stack S-5 |
| | Biodiesel Soy oil Absorber | 156 gpm | | Stack S-5 |
| | Biodiesel Water Absorber | 0.448 gpm | | Stack S-5 |
| BD010000 | Biodiesel Day Tank #1 | ~~164,000~~ **725,000** gals | | |
| BD020000 | Biodiesel Day Tank #2 | ~~164,000~~ **725,000** gals | | |

| Unit ID | Description | Capacity (tons/hr) | Control | Discharging to Stack |
|---|---|---|---|---|
| BD030000 | Biodiesel Storage Tank #1 | ~~164,000~~ **325,000** gals | | |
| BD040000 | Biodiesel Storage Tank #2 | ~~164,000~~ **325,000** gals | | |
| BD050000 | Biodiesel Storage Tank #3 | ~~164,000~~ **325,000** gals | | |
| BD060000 | Biodiesel Storage Tank #4 | ~~164,000~~ **325,000** gals | | |
| **BD070000** | **Biodiesel Storage Tank #5** | **325,000 gals** | | |
| GS010000 | Glycerine Tank #1 | 40,900 gals | | |
| GS020000 | Glycerine Tank #2 | 40,900 gals | | |
| LS010000 | Methanol Storage Tank #1 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS020000 | Methanol Storage Tank #2 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS030000 | Methanol Storage Tank #3 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS040000 | Methanol Storage Tank #4 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| LS050000 | Methanol Storage Tank #5 | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| ES010000 | Methoxide (catalyst) Storage | 19,400 gallons | **Soy oil absorber and water absorber** | **Stack S-5** |
| ML010000 | Biodiesel Loading Rack | 1000 gallons per minute | | |
| The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions. | | | | |

D.4.1 PSD Minor Limit for VOC [326 IAC 2-2]

(a) The amount of soybean oil processed to manufacture biodiesel shall be limited to less than ~~80,000,000~~ **110,000,000** gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

During the first twelve (12) months after issuance of this Part 70 permit, the total amount of soybeans oil processed shall be limited such that the total soybean oil processed divided by the accumulated months of operation shall not exceed ~~6,666,666.7~~ **9,166,667** gallons up to a maximum total of ~~80,000,000~~ **110,000,000** gallons for the first twelve (12) months.

(b) The following facilities' VOC emissions rates shall be limited as follows:

| Process | Control | VOC (lbs/hour) | Hours of operation limit |
|---|---|---|---|
| Biodiesel manufacturing process Normal operation | Soy oil absorber followed by a water absorber | 0.30 | |
| **Biodiesel manufacturing process with methanol tank loading** | **Soy oil absorber followed by a water absorber** | **0.63** | **1,000 hours per twelve (12) consecutive months.** |
| Biodiesel manufacturing process upset operation | Soy oil absorber followed by a water absorber | 29.4 | 24 ~~hrs/yr~~ **hours per twelve (12) consecutive months.** |
| ~~Biodiesel storage tanks and loading rack operation~~ | ~~None~~ | ~~1.40~~ | |
| Glycerine storage tanks | None | ~~0.0008~~ **0.0011** | |
| ~~Methanol storage tanks~~ | ~~None~~ | ~~0.38~~ | |
| ~~Methoxide (catalyst) storage tank~~ | ~~None~~ | ~~0.079~~ | |
| Biodiesel wastewater | None | ~~0.560~~ **0.77** | |
| Biodiesel fugitive emissions | LDR as required by 40 CFR 60, Subpart VV | ~~1.01~~ **0.64** | |

**(c) The VOC emissions from the biodiesel loading rack shall not exceed 0.02 lbs/kgal.**

**(d) The maximum throughput rate for the biodiesel loading rack shall not exceed 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.**

The **requirements in Condition D.4.1** ~~soybean oil limit in Condition D.4.1(a), the VOC emission limits in Condition D.4.1(b), and the limit on hours of biodiesel manufacturing process upset operation**s** in Condition D.4.1(b),~~ are required to limit the potential to emit of VOC from the biodiesel process to less than 100 tons per 12 consecutive month period **with compliance determined at the end of each month**.

~~The purchased soybean oil limit in~~ Condition**s** D.3.2~~(a)~~, ~~the soybean oil limit in Condition~~ D.4.1~~(a), the VOC emission limits in Condition D.3.2(b), the VOC emission limits in Condition D.4.1(b), the VOC emission limit in Condition~~ D.5.2, ~~the VOC emission limits in Condition~~ **and** D.6.2~~, and the limit on hours of biodiesel manufacturing process upset operation**s** in Condition D.4.1(b),~~ are required to limit the potential to emit of VOC from the entire source to less than 250 tons per 12 consecutive month period.

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D.4.2 VOC BACT Requirements [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the Permittee shall limit the volatile organic compound (VOC) emissions from the biodiesel manufacturing process as follows:

| Facility | Control | Emission Limit |
|---|---|---|
| Biodiesel manufacturing process without methanol unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.30 lbs/hr |
| Biodiesel manufacturing process<br>Upset operation | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 95% and a VOC emission rate of 29.4 lbs/hr |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.63 lbs/hr |
| Fugitive emissions | Comply with the provisions of 40 CFR 60, Subpart VV | ~~4.43~~ **2.80** tons/year |

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D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.1**(a)**, the Permittee shall maintain records of the amount of the soybean oil used to manufacture biodiesel.

**(b) To document compliance with Condition D.4.1(b), the Permittee shall maintain records of the operating hours for the biodiesel manufacturing process during the following operating scenarios:**

**(1) Normal operation with methanol tank loading.**

**(2) Upset conditions.**

**(c) To document compliance with Condition D.4.1(d), the Permittee shall maintain records of the amount of the biodiesel loaded out through the biodiesel loading rack.**

~~(b)~~**(d)** To document compliance with Condition D.4.9 (a) and (b), the Permittee shall maintain records of the soy oil flow rate of the soy oil absorber, and the water flow rate of the water absorber.

~~(c)~~**(e)** To document compliance with Conditions D.4.9(c) and (d), the Permittee shall maintain records of the readings of the operating temperature of the soy oil scrubber and water scrubber, respectively.

~~(d)~~**(f)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition**s** D.4.1(a)**, (b), and (d)** shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE DATA SECTION**

## Part 70 Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: **7344 State Road 15 South,** Claypool, Indiana 46510**-9746**
Mailing Address: ~~4800 Main, Suite 107, Kansas City, MO 64112~~ **7344 State Road 15 South, Claypool, Indiana 46510-9746**
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Reactor
Parameter: Soy bean oil
Limit: ~~80,000,000~~ **110,000,000** gallons/twelve months

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**
**OFFICE OF AIR QUALITY**
**COMPLIANCE DATA SECTION**

## Part 70 Quarterly Report
## for First Twelve months of Operation

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: **7344 State Road 15 South,** Claypool, Indiana 46510**-9746**
Mailing Address: ~~4800 Main, Suite 107, Kansas City, MO 64112~~ **7344 State Road 15 South, Claypool, Indiana 46510-9746**
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel Reactor
Parameter: Soy bean oil
Limit: (1) ~~80,000,000~~ **110,000,000** gallons/twelve months
(2) Running monthly average: ~~6,666,666.7~~ **9,166,667** gallons

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# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

**Source Name:** Louis Dreyfus Agricultural Industries LLC
**Source Address:** 7344 State Road 15 South, Claypool, Indiana 46510-9746
**Mailing Address:** 7344 State Road 15 South, Claypool, Indiana 46510-9746
**Part 70 Permit No.:** OP T085-21297-00102
**Facility:** Biodiesel Manufacturing Process with Methanol Tank Loading
**Parameter:** Operating Hour
**Limit:** 1,000 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

**YEAR:** _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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:** _____

**Attach a signed certification to complete this report.**

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 ~~Annual~~ Quarterly Report

Source Name: Louis Dreyfus Agricultural Industries LLC
Source Address: **7344 State Road 15 South,** Claypool, Indiana 46510**-9746**
Mailing Address: ~~4800 Main, Suite 107, Kansas City, MO 64112~~ **7344 State Road 15 South, Claypool, Indiana 46510-9746**
Part 70 Permit No.: OP T085-21297-00102
Facility: Biodiesel **Manufacturing** Process upset operation
Parameter: **Operating** Hour
Limit: 24 ~~hrs/Twelve months~~ **hours per twelve (12) consecutive month period with compliance determined at the end of each month.**

YEAR: _____

| ~~Hours of upset operation~~ |
|---|
| |

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

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# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

**Source Name:** **Louis Dreyfus Agricultural Industries LLC**
**Source Address:** **7344 State Road 15 South, Claypool, Indiana 46510-9746**
**Mailing Address:** **7344 State Road 15 South, Claypool, Indiana 46510-9746**
**Part 70 Permit No.:** **T085-21297-00102**
**Facility:** **Biodiesel Loading Rack**
**Parameter:** **Throughout Rate**
**Limit:** **Less than 110,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.**

**YEAR:** _____

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| 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:** _____

**Attach a signed certification to complete this report.**

**Conclusion and Recommendation**

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 085-24891-00102 and the operation of this proposed modification shall be subject to the conditions of the attached Significant Permit Modification No. 085-25147-00102. The staff recommends to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

**Appendix A: Emission Calculations**
**VOC Emissions**
**From the Biodiesel Manufacturing Process**

**Company Name: Louis Dreyfus Agricultural Industries, LLC**
**Address: 7344 State Road 15 South, Claypool, Indiana 46510**
**SSM: 085-24891-00102**
**SPM: 085-25147-00102**
**Reviewer: ERG/YC**
**Date: October 12, 2007**

This process is controlled by a soy oil absorber followed by a water absorber and vents through stack S-5. Emissions from day tanks, methanol storage tanks, and methoxide (catalyst) storage tank are also controlled by the water absorber and vent through Stack S-5. Biodiesel storage tanks vent to day tanks.

| Process Description | VOC Emission Limit* (lbs/hr) | Operating Hour Limit (hrs/yr) | PTE of VOC after Control (tons/yr) | Control Efficiency** | PTE of VOC before Control (tons/yr) |
|---|---|---|---|---|---|
| Normal Operation | 0.30 | 8,336 | 1.25 | 99% | 125 |
| Normal Operation with Methanol Unloading | 0.63 | 1,000 | 0.32 | 99% | 31.5 |
| Upset Conditions | 29.4 | 24 | 0.35 | 95% | 7.06 |
| **Total** | | **9,360** | **1.92** | | **164** |

* These emission limits were proposed by the permittee and will be verified by stack testing.
** These are the BACT requirements for the biodiesel manufacturing process.

**METHODOLOGY**

PTE of VOC after Control (tons/yr) = VOC Emission Limit (lbs/hr) x Operating Hour Limit (hrs/yr) x 1 ton/2000 lbs
PTE of VOC before Control (tons/yr) = PTE of VOC after Control / (1-Control Efficiency)

**Appendix A: Emission Calculations**
**VOC Emissions**
**From the Biodiesel Loading Rack**

**Company Name: Louis Dreyfus Agricultural Industries, LLC**
**Address: 7344 State Road 15 South, Claypool, Indiana 46510**
**SSM: 085-24891-00102**
**SPM: 085-25147-00102**
**Reviewer: ERG/YC**
**Date: October 12, 2007**

**1. Limited PTE**

The maximum loading rate for the biodiesel laoding rack is 1,000 gallons per minute.

| Process Description | VOC Emissions* (lbs/hr) | VOC Emission Limit (lbs/kgal) | Max. Throughput Limit (kgal/yr) | Limited PTE of VOC (tons/yr) |
|---|---|---|---|---|
| Biodiesel Loading Rack | 1.40 | 0.02 | 110,000 | 1.28 |

* This is the VOC emission limit for biodiesel loading rack in T085-21297-00102, issued on 01/24/06.

**METHODOLOGY**

VOC Emission Limit (lbs/kgal) = VOC Emissions (lbs/hr) / (1 kgal/min) x 1 hr/60mins
Limited PTE of VOC (tons/yr) = VOC Emission Limit (lbs/kgal) x Max. Throughput Limit (kgal/yr) x 1 ton/2000 lbs

**2. Unlimited PTE**

**This unit is not equipped any control device**.

| Process Description | VOC Emission Limit* (lbs/hr) | Max. Operating Hours (hrs/yr) | PTE of VOC (tons/yr) |
|---|---|---|---|
| Biodiesel Loading Rack | 1.40 | 8,760 | 6.13 |

* This is the VOC emission limit for biodiesel loading rack in T085-21297-00102, issued on 01/24/06.

**METHODOLOGY**

Unlimited PTE of VOC (tons/yr) = VOC Emission Limit (lbs/hr) x Max. Operating Hours (hrs/yr) x 1 ton/2000 lbs

**Appendix A: Emission Calculations**
**VOC Emissions**
**From the Biodiesel Storage Tanks**

**Company Name: Louis Dreyfus Agricultural Industries, LLC**
**Address: 7344 State Road 15 South, Claypool, Indiana 46510**
**SSM: 085-24891-00102**
**SPM: 085-25147-00102**
**Reviewer: ERG/YC**
**Date: October 12, 2007**

| Unit Description | PTE of VOC (lbs/yr/unit)* | Number of Units | PTE of VOC (tons/yr) |
|---|---|---|---|
| Biodiesel Storage Tanks - 725,000 gal | 1,762 | 2 | 1.76 |
| Biodiesel Storage Tanks - 325,000 gal | 601.76 | 5 | 1.50 |
| **Total** | | | **3.27** |

* Emissions from the biodiesel storage tanks were calculated by the Permittee using EPA TANKS software (version 4.09d) and have been verified.

**METHODOLOGY**

PTE of VOC (tons/yr) = PTE of VOC (lbs/yr/uni) x Number of Units x 1 ton/2000 lbs

**Appendix A: Emission Calculations**
**VOC Emissions**
**From Glycerine Storage Tanks, Biodiesel Wastewater, and Equipment Leaks**

**Company Name: Louis Dreyfus Agricultural Industries, LLC**
**Address: 7344 State Road 15 South, Claypool, Indiana 46510**
**SSM: 085-24891-00102**
**SPM: 085-25147-00102**
**Reviewer: ERG/YC**
**Date: October 12, 2007**

| Process Description | VOC Emission Rate* (lbs/hr) | Max. Operating Hours (hrs/yr) | PTE of VOC after Control (tons/yr) | Control Efficiency** | PTE of VOC before Control (tons/yr) |
|---|---|---|---|---|---|
| Glycerine Storage Tanks | 0.0011 | 8,760 | 4.82E-03 | 0% | 4.82E-03 |
| Biodiesel Wastewater | 0.77 | 8,760 | 3.37 | 0% | 3.37 |
| Equipment Leaks | 0.64 | 8,760 | 2.80 | 78% | 12.7 |
| **Total** | | | **6.18** | | **16.1** |

* The VOC emission rates for these processes were calculated by the Permittee based on the maximum soy oil process rate of 110 million gallons per year and have been verified and found accurate. These emission rates are included in their Part 70 permit as PSD minor limits.

** Control efficiency for equipment leaks is from Protocol for Equipment Leak Emission Estimates, EPA-453/R-95-017, Table 5-2.

**METHODOLOGY**

PTE of VOC after Control (tons/yr) = VOC Emission Rate (lbs/hr) x Max. Operating Hours (hrs/yr) x 1 ton/2000 lbs
PTE of VOC before Control (tons/yr) = PTE of VOC after Control (tons/yr) / (1-Control Efficiency)

**Appendix A: Emission Calculations**
**Potential to Emit Summary**

**Company Name: Louis Dreyfus Agricultural Industries, LLC**
**Address: 7344 State Road 15 South, Claypool, Indiana 46510**
**SSM: 085-24891-00102**
**SPM: 085-25147-00102**
**Reviewer: ERG/YC**
**Date: October 12, 2007**

**1. Potential To Emit before Control**

| Emission Units | PM (tons/yr) | PM10 (tons/yr) | $SO_2$ (tons/yr) | NOx (tons/yr) | VOC (tons/yr) | CO (tons/yr) | Total HAPs (tons/yr) |
|---|---|---|---|---|---|---|---|
| Biodiesel Manufacturing Process* | - | - | - | - | 164 | - | 164 |
| Biodiesel Loading Rack* | - | - | - | - | 6.13 | - | 6.13 |
| Biodiesel Storage Tanks* | - | - | - | - | 3.27 | - | 3.27 |
| Glycerine Storage Tanks | - | - | - | - | 4.82E-03 | - | 0.00 |
| Biodiesel Wastewater | - | - | - | - | 3.37 | - | Negligible |
| Equipment Leaks (Fugitive)* | - | - | - | - | 12.7 | - | 12.7 |
| **Total PTE** | **0.0** | **0.0** | **0.0** | **0.0** | **189** | **0.0** | **186** |

* The VOC emissions from these units are mainly Methanol which is also a HAP. Assume all VOCs are HAPs in the worst case scenario.

**1. Potential To Emit after Control**

| Emission Units | PM (tons/yr) | PM10 (tons/yr) | $SO_2$ (tons/yr) | NOx (tons/yr) | VOC (tons/yr) | CO (tons/yr) | Total HAPs (tons/yr) |
|---|---|---|---|---|---|---|---|
| Biodiesel Manufacturing Process* | - | - | - | - | 1.92 | - | 1.92 |
| Biodiesel Loading Rack* | - | - | - | - | 1.28 | - | 1.28 |
| Biodiesel Storage Tanks* | - | - | - | - | 3.27 | - | 3.27 |
| Glycerine Storage Tanks | - | - | - | - | 4.82E-03 | - | 0.00 |
| Biodiesel Wastewater | - | - | - | - | 3.37 | - | Negligible |
| Equipment Leaks (Fugitive)* | - | - | - | - | 2.80 | - | 2.80 |
| **Total PTE** | **0.0** | **0.0** | **0.0** | **0.0** | **12.6** | **0.0** | **9.27** |

* The VOC emissions from these units are mainly Methanol which is also a HAP. Assume all VOCs are HAPs in the worst case scenario.

# Indiana Department of Environmental Management
# Office of Air Quality

## Appendix B
## Best Available Control Technology (BACT) Determinations

**Source Background and Description**

| | |
|---|---|
| Source Name: | Louis Dreyfus Agricultural Industries, LLC |
| Source Location: | 7344 State Road 15 South, Claypool, Indiana 46510 |
| County: | Kosciusko |
| SIC Code: | 2075, 2079, and 2869 |
| Operation Permit No.: | T085-21297-00102 |
| Operation Permit Issuance Date: | January 24, 2006 |
| Significant Source Modification No.: | 085-24891-00102 |
| Significant Permit Modification No.: | 085-25147-00102 |
| Permit Reviewer: | ERG/YC |

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following Best Available Control Technology (BACT) review for the biodiesel manufacturing process. This process was permitted to construct and to operate in T085-21297-00102, issued on January 24, 2006. Biodiesel will be produced through a chemical process called trans-esterification, whereby glycerin is separated from fat or vegetable oil. The process leaves behind two products: methyl esters (the chemical name for biodiesel) and glycerin, which will be sold as a by-product. The biodiesel manufacturing process has potential VOC emissions greater than 25 tons per year and is not regulated by other rules in 326 IAC 8. Therefore, this process is subject to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and the VOC emissions from this process are required to be controlled by Best Available Control Technology (BACT).

Pursuant to T085-21297-00102, issued on January 24, 2006, the BACT for the biodiesel manufacturing process was determined to be the following:

The Permittee shall limit the VOC emissions from the biodiesel manufacturing process as follows:

| Facility | Control | Emission Limit |
|---|---|---|
| Biodiesel manufacturing process without methanol unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.30 lbs/hr |
| Biodiesel manufacturing process - Upset operation | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 95% and a VOC emission rate of 29.4 lbs/hr |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.63 lbs/hr |
| Fugitive emissions | Comply with the provisions of 40 CFR 60, Subpart VV | 4.43 tons/year |

On June 4, 2007, IDEM received a letter from the Permittee requesting to increase the maximum soybean oil throughput rate for the biodiesel manufacturing process from 80 million gallons per year to 110 million gallons per year. This modification will increase the potential to emit VOC of this process (see Appendix A). Therefore, this modification requires a re-evaluation of the BACT for the biodiesel manufacturing process.

IDEM, OAQ conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft US EPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below:

(a) Identify all potentially available control options;

(b) Eliminate technically infeasible control options;

(c) Rank remaining control technologies by control effectiveness;

(d) Evaluate the most effective controls and document the results as necessary; and

(e) Select BACT.

In accordance with EPA guidance, the BACT analysis should take into account the energy, environmental, and economic impacts. Emission reductions may be achieved through the application of available control techniques, changes in process design, and/or operational limitations. These BACT determinations are based on the following information:

(a) The BACT analysis information submitted by the Permittee on August 24, 2007;

(b) Information from vendors/suppliers;

(c) The EPA RACT/BACT/LAER (RBLC) Clearinghouse; and

(d) State and local air quality permits.

**Step 1 – Identify Control Options**

The following available technologies were identified and evaluated to control VOC emissions:

(a) IDEM, OAQ reviewed the following six control technologies:

1. Carbon Adsorption:

   Carbon adsorption is a process by which VOC is retained on a granular carbon surface, which is highly porous and has a very large surface-to-volume ratio. Organic vapors retained on the adsorbent are thereafter desorbed and both the adsorbate and absorbent are recovered.

   Carbon adsorption systems operate in two phases: adsorption and desorption. Adsorption is rapid and removes most of the VOC in the stream. Eventually, the adsorbent becomes saturated with the vapors and the system's efficiency drops. Regulatory considerations dictate that the adsorbent be regenerated or replaced soon after efficiency begins to decline. In regenerative systems, the adsorbent is reactivated with steam or hot air and the absorbate (solvent) is recovered for reuse or disposal. Non-regenerative systems require the removal of the adsorbent and replacement with fresh or previously regenerated carbon.

2. Wet Scrubbers:

   A wet scrubber is an absorption system in which the waste stream is dissolved in a solvent by passing it through a medium containing the solvent. Water is the most commonly used solvent. However, other solvents may be used dependent upon the components of the waste stream.

3. Thermal Oxidation:

An efficient thermal oxidizer design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion. The type of burners and their arrangement affect combustion rates and residence time. The more thorough the contact between the flame and VOC, the shorter the time required for complete combustion. Natural gas is required to ignite the flue gas mixtures and maintain combustion temperatures. Typically, a heat exchanger upstream of the oxidizer uses the heat content of the oxidizer flue gas to preheat the incoming VOC-laden stream to improve the efficiency of the oxidizer.

Of all the VOC control technologies evaluated, thermal oxidization is the one whose VOC reduction efficiency is least affected by waste stream characteristics. A properly designed thermal oxidizer can handle almost all solvent mixtures (except for fluorinated or chlorinated solvents) and VOC concentrations. In addition to the energy penalty associated with thermal oxidization, NOx emissions will be generated from the combustion of natural gas used to fuel the oxidizer. A thermal oxidizer normally provides a VOC destruction efficiency of at least 98%.

4. Catalytic Oxidation:

In a catalytic oxidizer, a catalyst is used to lower the activation energy for oxidation. When a preheated gas stream is passed through a catalytic oxidizer, the catalyst bed initiates and promotes the oxidation of the VOC without being permanently altered itself. In catalytic oxidization, combustion occurs at significantly lower temperatures than that of direct flame units and can also achieve a destruction efficiency of 98%. However, steps must be taken to ensure complete combustion. The types of catalysts used include platinum, platinum alloys, copper chromate, copper oxide, chromium, manganese, and nickel. These catalysts are deposited in thin layers on an inert substrate, usually a honeycomb shaped ceramic.

5. Flare:

Flares can be used to control almost any VOC stream and can handle fluctuations in VOC concentration, flow rate, heat content, and inert content. Flaring is appropriate for continuous, batch, and variable flow vent stream application. Some streams, such as those containing halogenated or sulfur-containing compounds, are usually not flared because they corrode the flare tip or cause formation of secondary pollutants (such as acid gases or sulfur dioxide). A flare normally provides a VOC destruction efficiency greater than 98%.

6. Refrigeration Condenser:

Condensation is the process by which the temperature of the waste stream is lowered to below the boiling points of the waste constituents. A refrigeration condenser normally provides a VOC control efficiency of greater than 90%.

(b) The EPA's RACT/BACT/LAER Clearinghouse (RBLC) database does not have any information for biodiesel manufacturing processes. A search for Air Permits for biodiesel manufacturing processes identified the following similar sources:

| Plant | PBLD ID or Permit # | Date Issued and State | Facility | BACT Determination |
|---|---|---|---|---|
| Indiana Clean Energy, LLC | SSM #023-22833-00040 | 12/15/06 (IN) | 90 MM gal/yr Biodiesel Manufacturing Process | Controlled by a methanol recovery scrubber and enclosed flare system with a total control efficiency of 98%. |
| Louis Dreyfus Agricultural Industries, LLC. | T085-21297-0010 | 01/24/06 (IN) | 80 MM gal/yr Biodiesel Manufacturing Process | A soy oil absorber followed by a water scrubber. VOC control efficiency > 99% during normal operation and > 95% for upset conditions. LDAR* Standards for fugitive emissions. |
| SoyMor, Albert Lea | 04700061-001 | 09/14/04 (MN) | 25 MM gal/yr Biodiesel Plant | Flare to control VOC emissions by 98% from distillation and from storage tanks; LDAR* Standards for the fugitive emissions from system components. |
| Minnesota Soybean Processors, Brewster | 1050053-003 | 05/14/04 (MN) | 30 MM gal/yr Biodiesel Plant | LDAR* Standards for the fugitive emissions from system components. |

*LDAR = Leak Detection and Repair.

**Step 2 – Eliminate Technically Infeasible Control Options**

After reviewing the above technologies, IDEM, OAQ has determined that the use of carbon adsorption or condensers are technically infeasible options for this source for the following reasons:

**1. Carbon Adsorption:**

Carbon adsorption uses intermolecular forces to accumulate organic material at the surface of an adsorbent (typically activated carbon). These intermolecular forces include the small momentary dipoles that result from the movement of electrons within molecular bonds (van der Waals interactions). The incidence of van der Waals interactions increases with larger molecules because there are more bonds within each molecule. For this reason, carbon adsorption is most effective for larger molecules. The VOC emitted from the fermentation system include several small molecules, such as methanol (MW = 32). Due to the small size of these molecules, the van der Waals interactions are weak. Since carbon adsorption typically requires a VOC concentration of at least 200 to 1,000 ppmv and average VOC molecular weights of at least 50 to 60 atomic units, this technology is considered infeasible for controlling the VOC emissions from the biodiesel production process.

**2. Condensers:**

Condensers would be technically infeasible for this facility because of the exhaust characteristics of the waste stream. The low VOC concentration and high volumetric flow rate of the exhaust gases would make condensers ineffective.

**Step 3 – Rank Remaining Control Technologies by Control Effectiveness**

Using the control efficiencies reported for similar sources, IDEM, OAQ has ranked the remaining control technologies as follows:

| Control Technology | Control Efficiency (%) |
|---|---|
| Soy Oil Absorber and Scrubber (normal operations) | 99% |
| Scrubber and Enclosed Flare | 98% |
| Thermal Oxidizer | 98% |
| Catalytic Oxidizer | 98% |
| Flare | 98% |

**Step 4 – Evaluate the Most Effective Controls and Document Results**

The use of soy oil absorber followed by a scrubber provided the highest control efficiency (99%) for the biodiesel manufacturing processes during normal operations.

**Step 5 – Select BACT**

The Permittee proposes to use one soy oil absorber followed by a water scrubber to control the biodiesel manufacturing process at this plant. The Permittee also proposed to control the fugitive emissions from the biodiesel manufacturing process by complying with the requirements in 40 CFR 60, Subpart VV (Leak Detection and Repair (LDAR) Standards). Since there will be no physical changes to the biodiesel manufacturing process, there will be no change to the maximum hourly biodiesel production rate and the maximum VOC emissions from the biodiesel manufacturing process remain the same. Therefore, IDEM, OAQ has determined that the Permittee shall comply with following VOC BACT requirements for the biodiesel manufacturing process at this source:

| Facility | Control | Emission Limit |
|---|---|---|
| Biodiesel manufacturing process without methanol unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.30 lbs/hr |
| Biodiesel manufacturing process - Upset operation | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 95% and a VOC emission rate of 29.4 lbs/hr |
| Biodiesel manufacturing process with methanol tank unloading | Soy oil absorber followed by a water absorber | Overall VOC control efficiency of 99% and a VOC emission rate of 0.63 lbs/hr |
| Fugitive emissions | Comply with the provisions of 40 CFR 60, Subpart VV | 2.80 tons/year* |

*Note: This is based on the actual numbers of pumps, sample/drains, relief valves, agitator seals, and valves constructed at this source and applying the LDAR requirements (40 CFR 60, Subpart VV) for these units.