

Mic Dwyer
Stoneco, Inc.
P.O. Box 29A
Maumee, Ohio 43537

Re: 003- 10892
First Significant Permit Revision to
FESOP 003-5809-03281

Dear Mic Dwyer:

Stoneco, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) on December 13, 1996 for a stationary drum mix asphalt plant located at 7320 Lower Huntington Road in Fort Wayne, Indiana. A letter requesting changes to this permit was received on April 22, 1999. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document.

A significant permit revision to this permit is hereby approved as discussed in the attached Technical Support Document and as described herein (bold emphasis added to new language):

1. The descriptive information about the maximum capacity of the drum mixer dryer, capacity changes to several asphalt cement storage tanks, and the changes to and the addition of a fuel oil storage tank in items (a), (b), (d), (e), (f), and (g) of Section A.2 on Page 4 of 31 of the FESOP shall be revised to reflect these changes as follows:
 - (a) one aggregate drum mix dryer (ID No. EU-02), with a maximum capacity of ~~325~~ **425** tons per hour; equipped with one (1) natural gas fired dryer burner with a maximum heat input of 135 million (MM) Btu per hour, using liquified petroleum gas (LPG), No. 1 distillate fuel oil, No. 2 distillate fuel oil, No. 4 residual fuel oil, No. 5 residual fuel oil, No. 6 residual fuel oil and re-refined waste oil as back-up fuels; with one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
 - (b) feeding, conveying and loading operations, processing a maximum of ~~325~~ **425** tons per hour;
 - (d) one (1) ~~48,000~~ **30,000** gallon asphalt cement storage tank (ID No. T-01);
 - (e) ~~one two (4 2) 20,000~~ **15,000** gallon asphalt cement storage tanks (ID No. T-02, **T-03**); ~~and~~
 - (f) one (1) ~~22,000~~ **20,000** gallon fuel oil storage tank (ID No. T-~~03~~ **04**); ~~and~~
 - (g) **one (1) 12,000 gallon fuel oil storage tank (ID No. T-05).**

4. The descriptive information about the maximum capacity of the drum mixer dryer in items (a) and (b) of Section D.1 on Page 20 of 31 of the FESOP shall be revised to reflect the change as follows:

- (a) one aggregate drum mix dryer (ID No. EU-02), with a maximum capacity of ~~325~~ **425** tons per hour; equipped with one (1) natural gas fired dryer burner with a maximum heat input of 135 million (MM) Btu per hour, using liquified petroleum gas (LPG), No. 1 distillate fuel oil, No. 2 distillate fuel oil, No. 4 residual fuel oil, No. 5 residual fuel oil, No. 6 residual fuel oil and re-refined waste oil as back-up fuels; with one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
 - (b) feeding, conveying and loading operations, processing a maximum of ~~325~~ **425** tons per hour;
3. The descriptive information about the capacity changes to several asphalt cement storage tanks, and the changes to and the addition of a fuel oil storage tank in items (d), (e), (f), and (g) of Section D.3 on Page 26 of 31 of the FESOP shall be revised to reflect these changes as follows:
- (d) one (1) ~~48,000~~ **30,000** gallon asphalt cement storage tank (ID No. T-01);
 - (e) ~~one two (4 2) 20,000~~ **15,000** gallon asphalt cement storage tanks (ID No. T-02, **T-03**); ~~and~~
 - (f) one (1) ~~22,000~~ **20,000** gallon fuel oil storage tank (ID No. T-~~03~~ **04**); ~~and~~
 - (g) **one (1) 12,000 gallon fuel oil storage tank (ID No. T-05).**
4. Due to the changes in the tank capacities, the New Source Performance Standards provisions also had to be adjusted. Condition D.3.1 is changed as follows:
- D.3.1 Volatile Organic Compounds (VOC)
Pursuant to 40 CFR 60.110b(b), the ~~one (1) 18,000 gallon fuel oil storage tank (ID No. T-04)~~ **two (2) 15,000 gallon asphalt cement storage tanks (ID No. T-02 and T-03) and one (1) 12,000 gallon fuel oil storage tank (ID No. T-05)** is ~~are~~ subject to 60.116b, which requires that records be maintained showing the dimensions and analysis of the capacity of the tank (for tanks with a capacities less than 19,813 gallons). Per 40 CFR 60.110(c), the one (1) ~~20,000~~ **30,000** gallon asphalt cement storage tank (ID No. ~~T-02~~ **T-01**) and the one (1) ~~22,000~~ **20,000** gallon fuel oil storage tank (ID No. ~~T-03~~ **T-04**) are subject to 60.116b, which requires that records be maintained showing the dimensions and analysis of capacity of the tank and indicating the true vapor pressure of the stored VOC to be less than 15.0 kPa (for tanks with a capacity greater than 19,813 gallons but less than 39.890 gallons, and which have a maximum true vapor pressure of less than 15.0 kPa).
5. Condition D.3.2 is changed as follows:
- D.3.2 Storage Vessel
The Permittee shall maintain records at the source showing:
- (a) the dimension of each storage vessel (tanks T-01, T-02, ~~and~~ T-03, **T-04, and T-05**);
 - (b) an analysis showing the capacity of each storage vessel (tanks T-01, T-02, ~~and~~ T-03, **T-04, and T-05**); and

- (c) the true vapor pressure of each VOC stored, indicating that the maximum true vapor pressure of each VOC stored is less than 15.0 kPa (tanks ~~T-02~~ **T-01** and ~~T-03~~ **T-04**).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this permit revision 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 Management (OAM).
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 (Revocation), 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.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this revision and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Donald R. Poole, OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (800) 451-6027, (press 0 and ask for Donald R. Poole) or extension (2-8327), or dial (317) 232-8327.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments

drp

cc: File - Allen County
U.S. EPA, Region V
Allen County Health Department
Air Compliance Section Inspector - Jennifer Schick
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
OFFICE OF AIR MANAGEMENT**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 1-800-451-6027

**Stoneco, Inc. Fort Wayne Drum Asphalt Plant
7320 Lower Huntington Road
Fort Wayne, Indiana 46809**

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F003-5809-03281	
Original issued by Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: December 13, 1996

First Significant Modification. 003-9968, issued on June 25, 1998
First Administrative Amendment, 0003-10070, issued on March 18, 1999

First Significant Permit Revision No. 003-10892	Pages Affected: 4, 20, and 26
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates a drum hot mix asphalt plant.

Responsible Official: Mic Dwyer, Operations Manager
Source Address: 7320 Lower Huntington Road, Fort Wayne, Indiana 46809
Mailing Address: 201 South Thomas Road, Fort Wayne, Indiana 46808
SIC Code: 2951
County Location: Allen
County Status: Attainment for all criteria pollutants
Source Status: Synthetic Minor Source, FESOP Program

A.2 Emission Units and Pollution Control Summary

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

- (a) one (1) aggregate drum mix dryer (ID No. EU-02), with a maximum capacity of 425 tons per hour; equipped with one (1) natural gas fired dryer burner with a maximum heat input of 135 million British thermal units per hour, using liquefied petroleum gas (LPG), No. 1 distillate fuel oil, No. 2 distillate fuel oil, No. 4 residual fuel oil, No. 5 residual fuel oil, No. 6 residual fuel oil and re-refined waste oil as back-up fuels; with one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1);
- (b) feeding, conveying and loading operations, processing a maximum of 425 tons per hour;
- (c) cold-mix (stockpile mix) asphalt manufacturing operations;
- (d) one (1) 30,000 gallon asphalt cement storage tank (ID No. T-01);
- (e) two (2) 15,000 gallon asphalt cement storage tanks (ID No. T-02 and T-03);
- (f) one (1) 20,000 gallon fuel oil storage tank (ID No. T-04); and
- (g) one (1) 12,000 gallon fuel oil storage tank (ID No. T-05).

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

- (a) one (1) hot oil heater, with a maximum heat input of 1.3 million British thermal units per hour, firing No. 2 distillate fuel oil with natural gas and LPG as back-up fuels, exhausting to one (1) stack;
- (b) sand, crushed stone and reclaimed asphalt pavement storage piles with a maximum total storage capacity of 60,000 tons;
- (c) paved and unpaved roadways; and
- (d) two (2) materials testing labs.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

- B.1 General Requirements [IC 13-15] [IC 13-17] (Prior to July 1, 1996: IC 13-7 and IC 13-1-1)
The permittee shall comply with the provisions of IC 13-15 (Permits Generally), IC 13-17 (Air Pollution Control) and the rules promulgated thereunder.
- B.2 Definitions [326 IAC 2-8-1]
Terms in this permit shall have the meaning assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11 (prior to July 1, 1996, IC 13-7-2, IC 13-1-1-2), 326 IAC 1-2, and 326 IAC 2-7 shall prevail.
- B.3 Permit Term [326 IAC 2-8-4(2)]
This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-5-5-3 (prior to July 1, 1996, IC 13-7-10-2.5), of the permit.
- B.4 Enforceability [326 IAC 2-8-6]
(a) All terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM.
(b) Unless otherwise stated, terms and conditions of this permit, including any provisions to limit the source's potential to emit, are enforceable by the United States Environmental Protection Agency (U.S. EPA) and citizens under the Clean Air Act.
- B.5 Termination of Right to Operate [326 IAC 2-8-9]
The expiration of this permit terminates the Permittee's right to operate unless a timely and complete renewal application has been submitted consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-7.
- B.6 Severability [326 IAC 2-8-4(4)]
(a) The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
(b) Indiana rules from 326 IAC quoted in conditions in this permit are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard.
- B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]
This permit does not convey any property rights of any sort or any exclusive privilege.
- B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)]
(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The Permittee shall also provide additional information as requested by IDEM, OAM, to determine the compliance status of the source in accordance with 326 IAC 2-8-5(a).
(c) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that the IDEM, OAM may request in writing to determine whether cause exists for

modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

- (d) Upon written request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit. For information claimed to be confidential, the Permittee shall furnish such records directly to both the U.S. EPA and IDEM, OAM, along with a claim of confidentiality.

Such confidentiality claims shall meet the requirements of 40 CFR Part 2, Subpart B (when submitting to U.S. EPA) and 326 IAC 17 (when submitting to IDEM, OAM).

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAM may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

- (a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

- (1) enforcement action;
- (2) permit termination, revocation and reissuance or modification; and
- (3) denial of a permit renewal application.

- (b) 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.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)]

Any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

A responsible official is defined at 326 IAC 2-7-1(33).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually certify that the source has complied with the terms and conditions contained in this permit, including emission limitations, standards, and work practices. The certification shall be submitted July 1 to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015
and

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

- (b) This annual compliance certification report required by this permit shall be timely if:
 - (1) Delivered by U.S. mail and postmarked on or before the date it is due; or
 - (2) Delivered by any other method if it is received and stamped by IDEM, OAM, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The identification of each term and condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period; and
 - (5) Such other facts as IDEM, OAM, may require to determine the compliance status of the source.

B.13 Preventive Maintenance Plan [326 IAC 2-8-4(9)] [326 IAC 1-6-3]

- (a) The Permittee shall prepare, maintain and implement operation and Preventive Maintenance Plans as necessary including the following information on each:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Corrective actions that will be implemented in the event an inspection indicates an out of specification situation;
 - (4) A time schedule for taking such corrective actions including a schedule for devising additional corrective actions for situations that may not have been predicted; and
 - (5) Identification and quantification of the replacement parts which will be maintained in inventory for quick replacement.
- (b) Preventive Maintenance Plans shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

B.14 Emergency Provision [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided as follows:
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements of this permit;
 - (4) The Permittee notified IDEM, OAM, within four (4) daytime business hours after the beginning of the emergency occurrence by telephone or facsimile;

Telephone No.: 1-800-451-6027 (ask for Office of Air Management) or,
Telephone No.: 317-233-0178
Facsimile No.: 317-233-5967
 - (5) The Permittee submitted written notice or by facsimile of the emergency to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency. The notice shall fulfill the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:
 - (A) A description of the emergency;
 - (B) Any steps taken to mitigate the emissions; and
 - (C) Corrective actions taken.The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33).
 - (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

- (d) This emergency provision supersedes any emergency or upset provision contained in 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAM, may require that the preventive maintenance plan required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAM, by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) the Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in clause (B) above.

- B.15 Deviations from Permit Requirements and/or Conditions [326 IAC 2-8-4(3)(C)(ii)]
Deviations from requirements, (for emergencies see Condition B.14 - Emergency Provision) the probable cause of such deviations, and any corrective actions or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ten (10) calendar days from the date of the discovery of the deviation.

- B.16 Written notification shall be submitted on the attached Deviation Occurrence Reporting Forms. Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8(a)]
[326 IAC 2-8-8(b)] [326 IAC 2-8-8(c)]
- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)]

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 (prior to July 1, 1996, in IC 13-7-10-5) or if the commissioner determines any of the following:
 - (1) That it contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAM, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practical. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAM, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAM, and shall include, at minimum, the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(20).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (b) Timely Submittal of Permit Renewal [326 IAC 2-5-3]
 - (1) The Permittee has a duty to submit a timely and complete permit renewal application. A timely renewal application is one that is:
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) Delivered by U. S. mail and postmarked on or before the date it is due; or
 - (C) Delivered by any other method if it is received and stamped by IDEM, OAM, on or before the date it is due.

- (2) If IDEM, OAM fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.
 - (c) **Right to Operate After Application of Renewal** [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAM takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAM, any additional information identified as needed to process the application.
- B.18 Administrative Permit Amendment [326 IAC 2-8-10]
- (a) An administrative permit amendment is a FESOP revision that makes changes of the type specified under 326 IAC 2-8-10(a).
 - (b) An administrative permit amendment may be made by IDEM, OAM, consistent with the procedures specified under 326 IAC 2-8-10(b).
 - (c) The Permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]
- B.19 Minor Permit Modification [326 IAC 2-8-11(a)] [326 IAC 2-8-11(b)(1) and (2)]
- (a) A permit modification is any revision to this permit that cannot be accomplished as an administrative permit amendment under 326 IAC 2-8-10.
 - (b) Minor permit modification procedures shall follow the procedures specified under 326 IAC 2-8-11(b)(1)(A) through (F).
 - (c) An application requesting the use of minor modification procedures shall meet the requirements of 326 IAC 2-8-3(c) and shall include the information required in 326 IAC 2-8-11(b)(3)(A) through (D).
 - (d) The Permittee may make the change proposed in its minor permit modification application immediately after it files such application unless the change is subject to the construction permit requirements of 326 IAC 2-1, 326 IAC 2-2, or 326 IAC 2-3. After the Permittee makes the change allowed under minor permit modification procedures, and until IDEM, OAM takes any of the actions specified in 326 IAC 2-8-11(b)(5), the Permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this period, the Permittee need not comply with the existing permit terms and conditions it seeks to modify. If the Permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it. [326 IAC 2-8-11(b)(6)]
- B.20 Significant Permit Modification [326 IAC 2-8-11(d)]
- (a) Significant modification procedures shall be used for applications requesting permit modifications that do not qualify as minor permit modifications or as administrative amendments.

- (b) Any significant change in existing monitoring permit terms or conditions and every relaxation of reporting or record keeping permit terms or conditions of this permit shall be considered significant.
- (c) Nothing in 326 IAC 2-8-11(d) shall be construed to preclude the Permittee from making changes consistent with 326 IAC 2-8 that would render existing permit compliance terms and conditions irrelevant.
- (d) Significant modifications of this permit shall meet all requirements of 326 IAC 2-8, including those for application, public participation, and review by the U.S. EPA, as they apply to permit issuance and renewal.

B.21 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-8-11(b)(2)]
Notwithstanding 326 IAC 2-8-11(b)(1)(D)(i) and 326 IAC 2-8-11(c)(1), minor permit modification procedures may be used for modifications of this permit involving the use of economic incentives, marketable FESOP's, emissions trading, and other similar approaches to the extent that such minor permit modification procedures are explicitly provided for in the applicable implementation plan (SIP) or in applicable requirements promulgated by the U.S. EPA.

B.22 Operational Flexibility [326 IAC 2-8-15]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- (3) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

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

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit. The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33); and

- (4) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review. Such records shall consist of all information required to be submitted to IDEM, OAM, in the notices specified in 326 IAC 2-8-15(b)(1), (c)(1), and (d).
 - (b) For each such change, the required written notification shall include the following:
 - (1) A brief description of the change within the source;
 - (2) The date on which the change will occur;
 - (3) Any change in emissions; and
 - (4) Any permit term or condition that is no longer applicable as a result of the change.
 - (c) Emission Trades [326 IAC 2-8-15(c)]

The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints in section (a) of this condition and those in 326 IAC 2-8-15(c).
 - (d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]

The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7) and subject to the constraints in section (a) of this condition and those in 326 IAC 2-8-15(d).
 - (e) Back-up fuel switches and the manufacture of stockpile mix addressed in (and if necessary limited under) Section D of this permit shall not be considered Alternative Operating Scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.
- B.23 Construction Permit Requirement [326 IAC 2-1]

Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- B.24 Inspection and Entry [326 IAC 2-8-5(a)(2)]

Upon presentation of IDEM identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

 - (a) Enter upon the Permittee's premises where a FESOP source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of demonstrating compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of demonstrating compliance with this permit or applicable requirements. [326 IAC 2-8-5(a)(4)]

B.25 Annual Fee Payment [326 IAC 2-8-4(6)] [326 IAC 2-8-16]

- (a) The Permittee shall pay annual fees to IDEM, OAM, consistent with the fee schedule established in 326 IAC 2-8-16.
- (b) Failure to pay may result in administrative enforcement action, revocation of this permit, referral to the Office of Attorney General for collection, or other appropriate measures.
- (c) The Permittee shall pay the annual fee within thirty (30) calendar days of receipt of a billing by IDEM, OAM or in a time period that is consistent with the payment schedule issued by IDEM, OAM.
- (d) If the Permittee does not receive a bill from IDEM, OAM, thirty (30) calendar days before due date, the Permittee shall call the following telephone numbers: 1-800-451-6027 or 317-233-0179 (ask for OAM, Data Support Section), to determine the appropriate permit fee. The applicable fee is due April 1 of each year.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations [326 IAC 2-8-4(1)]

C.1 Overall Source Limit (326 IAC 2-8)

Pursuant to 326 IAC 2-8, emissions of any regulated pollutant from the entire source shall not exceed 99 tons per 365 day period. Emissions of hazardous air pollutants (HAPs) from the entire source shall not exceed 9 tons of any individual HAP per 365 day period or 24 tons of any combination of HAPs per 365 day period. Emissions shall include those from all emission points at the source including those that are insignificant as defined in 326 IAC 2-7-1(20). The source shall be allowed to add insignificant activities not already listed in this permit, as long as the total emissions from the source do not exceed the above specified limits. In the event that any condition or combination of conditions in Section D of this permit differs from the above, the most restrictive limit will prevail.

C.2 Opacity

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following:

- (a) Visible emissions shall not exceed an average of 40 percent opacity in 24 consecutive readings,
- (b) Visible emissions shall not exceed 60 percent opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Unless otherwise stated in Section D.

C.3 Open Burning

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

C.4 Fugitive Dust Emissions

The Permittee shall be in violation of 326 IAC 6-4 if any of the criteria specified in 326 IAC 6-4-2 (1) through (4) are violated.

C.5 Fugitive Particulate Matter Emission Limitations

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on April 30, 1996. The plan consists of:

- (a) Fugitive particulate matter emissions from plant roadways, parking lots and yards shall be controlled by the following methods:
 - (1) application of water and/or water-dust control material solutions on an as needed basis;
 - (2) sweeping between watering on an as needed basis; and
 - (3) limiting vehicular speeds to 10 miles per hour.
- (b) Fugitive particulate matter emissions from conveying/handling operations shall be controlled by the following methods:
 - (1) utilizing a water spray system at strategic transfer locations; and

- (2) minimizing all drop distances.
 - (c) Fugitive particulate matter emissions from storage piles shall be controlled by the following methods:
 - (1) watering storage piles on an as needed basis;
 - (2) minimizing drop distances; and
 - (3) maintaining moisture contents of materials above 1.5 percent.
- C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]
- (a) All equipment that potentially might emit pollutants into the ambient air shall be properly operated and maintained.
 - (b) Unless otherwise stated in this permit, all air pollution control equipment listed in this permit shall be operated at all times that the emission unit(s) vented to the control equipment is in operation.
 - (c) The permittee shall perform all necessary maintenance and make all necessary attempts to keep all air pollution control equipment in proper operating condition at all times.

Testing [326 IAC 2-8-4(3)]

C.7 Performance Testing

Compliance Testing shall be conducted on the aggregate batch mix dryer (ID No. EU-02) for PM and PM₁₀, within 24 to 36 months after issuance of this permit. All testing shall be performed according to the provisions of 326 IAC 3-2.1 (Source Sampling Procedures) and by methods in the approved test protocol. The test protocol shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

at least thirty-five (35) days before the intended test date. [326 IAC 2.1-2]

Compliance Monitoring [326 IAC 2-8-5(a)(1)]

C.8 Compliance Monitoring [326 IAC 2-8-4(3)]

Compliance with applicable requirements shall be documented in accordance with the provisions of 326 IAC 2-8-4(3). The Permittee shall be responsible for installing any necessary equipment and initiating any additional monitoring no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee shall notify:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, with full justification of the reasons for inability to meet this date and a schedule which it expects to meet. If a denial of the request is not received before the monitoring is fully implemented, the schedule shall be deemed approved. The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(C)(33).

C.9 Maintenance of Monitoring Equipment [326 IAC 1-6]

The Permittee shall perform all necessary maintenance and make all necessary attempts to keep all required monitoring equipment in proper operating condition at all times. In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. Preventive maintenance plans of the monitors shall be implemented. In addition prompt correction, as indicated, shall be initiated within the time frames specified, whenever the parameters monitored fall outside of the indicated values.

C.10 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the requirements of this permit shall be performed, whenever applicable according to the provisions of 326 IAC 3, or 40 CFR Part 60, Appendix A, as appropriate, unless some other method is specified in this permit.

C.11 Pressure Gauge Specifications

Whenever a condition in this permit requires the taking of pressure drop across any part of the unit or its control device the gauge employed shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within ± 2 percent of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.

Corrective Actions [326 IAC 2-8-4(1)] [326 IAC 2-8-5(1)]

C.12 Failure to Take Corrective Action

For each unit for which parametric monitoring is required, appropriate corrective actions as described in the Preventive Maintenance Plan shall be taken when indicated by monitoring information. Failure to take corrective action following an excursion of a surrogate monitoring parameter within the prescribed time will constitute a violation of the permit unless taking the corrective action set forth in the Plan would be unreasonable.

After investigating the reason for the excursion, the permittee may be excused from taking further corrective action for any of the following reasons:

- (a) Providing that prompt action was taken to correct the monitoring equipment, that the monitoring equipment malfunctioned, giving a false reading; or
- (b) The Permittee has determined that the parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied; or
- (c) An automatic measurement was taken when the process was not operating; or
- (d) The Permittee determines that the process has already returned to operating within "normal" parameters and no corrective action is required.

Records shall be kept of all instances in which the action values were not met and of all corrective actions taken. In the event of an emergency, the provisions of 326 IAC 2-8-12 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

Whenever the results of the stack test performed in conformance with Condition C.7 - Performance Testing, of this permit exceed the level specified in any condition of this permit, appropriate corrective actions shall be submitted to IDEM-OAM within 30 (thirty) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are not acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

Record Keeping and Reporting [326 IAC 2-8-4(3)]

C.14 Monitoring Data Availability

All observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions. Records shall be kept of the times that the equipment is not operating. If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality. If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded. At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed 5 percent of the operating time in any quarter. Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason.

C.15 General Record Keeping Requirements

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location and available within one hour upon verbal request of an IDEM, OAM representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two years providing they are made available within thirty (30) days after written request.

(b) Records of required monitoring information shall include:

- (1) The date, place, and time of sampling or measurements;
- (2) The dates analyses were performed;
- (3) The company or entity performing the analyses;
- (4) The analytic techniques or methods used;
- (5) The results of such analyses; and
- (6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include:

- (1) Copies of all reports required by this permit;
- (2) All original strip chart recordings for continuous monitoring instrumentation;
- (3) All calibration and maintenance records;
- (4) All preventive maintenance and corrective actions that were implemented. Such records shall briefly describe what was done and indicate who did it;
- (5) Relevant work purchases orders;
- (6) Quality assurance and quality control procedures;
- (7) Operator's standard operating procedures;
- (8) Manufacturer's specifications or their equivalent; and
- (9) Equipment "troubleshooting" guidance.

C.16 General Reporting Requirements

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be timely if:
- (1) Delivered by U.S. mail and postmarked on or before the date it is due; or
 - (2) Delivered by any other method if it is received and stamped by IDEM, OAM, on or before the date it is due.
- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports.
- (d) Any corrective actions taken as a result of an exceedance of a limit, and excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.
- (e) The first report shall cover the period commencing the date of issuance of this permit and ending March 31, 1996.

SECTION D.1 FACILITY OPERATION CONDITIONS

- (a) one (1) aggregate drum mix dryer (ID No. EU-02), with a maximum capacity of 425 tons per hour; equipped with one (1) natural gas fired dryer burner with a maximum heat input of 135 million British thermal units per hour, using liquefied petroleum gas (LPG), No. 1 distillate fuel oil, No. 2 distillate fuel oil, No. 4 residual fuel oil, No. 5 residual fuel oil, No. 6 residual fuel oil and re-refined waste oil as back-up fuels; with one (1) baghouse (ID No. B-1) for particulate matter control, exhausting to one (1) stack (ID No. SV-1); and
- (b) feeding, conveying and loading operations, processing a maximum of 425 tons per hour;

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3] [326 IAC 12] [40 CFR Part 60.90]

D.1.1 Particulate Matter

State: Pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the mixing and drying operations (ID No. EU-02) shall not exceed 55.0 pounds per hour.

Federal: Pursuant to 326 IAC 12, (40 CFR Part 60.90, Subpart I) "Standards of Performance for Hot Mix Asphalt Facilities", the particulate matter emissions from the mixing and drying operations shall be limited to 0.04 grains per dry standard cubic foot.

D.1.2 Particulate Matter with Aerodynamic Diameter Less Than or Equal to 10 Micrometers (PM₁₀)

Pursuant to 326 IAC 2-8-4, PM₁₀ emissions from the aggregate mixing and drying operation (ID No. EU-02) shall not exceed 21.9 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.1.3 Opacity

Pursuant to 326 IAC 12, (40 CFR Part 60.92, Subpart I) "Standards of Performance for Hot Mix Asphalt Facilities", the mixing and drying operations shall not discharge or cause the discharge into the atmosphere any gases which exhibit 20 percent opacity or greater.

D.1.4 Sulfur Dioxide (SO₂)

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 91 million British thermal units per hour burner for the aggregate dryer shall be limited to 1.6 pounds per million British thermal units heat input for residual oils, and shall be limited to 0.5 pounds per million British thermal units for distillate oil combustion. This is equivalent to the following maximum allowable sulfur contents of the following fuels: No. 1 distillate fuel oil (0.48 percent maximum sulfur content), No. 2 distillate fuel oil (0.49 percent maximum sulfur content), No. 4 residual oil (1.56 percent maximum sulfur content), No. 5 residual fuel oil (1.66 percent maximum sulfur content), No. 6 residual fuel oil (1.66 percent maximum sulfur content), and re-refined waste oil (1.47 percent maximum sulfur content).

Pursuant to 326 IAC 7-1.1-2, this sulfur dioxide limit applies at all times including periods of startup, shutdown, and malfunction.

D.1.5 No. 2 Distillate Fuel Oil Usage and Equivalents

The consumption of No. 2 distillate fuel oil (not to exceed 0.49% sulfur content) plus equivalent No. 2 distillate fuel oil consumption from back-up fuels, shall be limited to 2,764,300 gallons per 365 day period, rolled on a daily basis. For the purposes of calculating equivalent No. 2 distillate fuel oil consumption from back-up fuels, the following conversion factors shall be utilized:

- 1) 1 million cubic feet of natural gas = 0.008848 kgal of No. 2 distillate fuel oil,
- 2) 1 kgal of liquefied petroleum gas (not to exceed 0.01% sulfur) = 0.0000128 kgal of No. 2 distillate fuel oil
- 3) 1 kgal of No. 1 distillate fuel oil (not to exceed 0.48% sulfur) = 0.9796 kgal of No. 2 distillate fuel oil
- 4) 1 kgal of No. 4 residual fuel oil (not to exceed 0.70% sulfur) = 1.509 kgal of No. 2 distillate fuel oil
- 5) 1 kgal of No. 5 residual fuel oil (not to exceed 0.87% sulfur) = 1.963 kgal of No. 2 distillate fuel oil
- 6) 1 kgal of No. 6 residual fuel oil (not to exceed 1.34% sulfur) = 3.024 kgal of No. 2 distillate fuel oil
- 7) 1 kgal of waste oil (No. 4 recycled) (not to exceed 0.70% sulfur) = 1.479 kgal of No. 2 fuel oil

Therefore, the requirements of 326 IAC 2-7 will not apply.

Testing Requirements [326 IAC 2-8-4(3)]

D.1.6 Particulate Matter

During the period between 24 months and 36 months after issuance of this permit, the Permittee shall perform PM and PM10 testing utilizing methods per 40 CFR Part 60 Appendix A, Method 5, 17, 40 CFR Part 51 Appendix M, Method 201, 201a, 202, as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10.

D.1.7 Fuel Oil Sampling and Analysis

Oil samples shall be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted. The Permittee shall analyze the oil sample to determine the sulfur content of the oil in accordance with 326 IAC 3-3-4. If a partially empty fuel tank is refilled, a new sample and analysis is required upon filling. Vendor analysis of each load delivered is acceptable, in lieu of the above, if accompanied by a certification.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.1.8 Pressure Readings

The Permittee shall take readings of the total static pressure drop across the baghouse controlling the mixing and drying operation, at least once a day when the mixing and drying process is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 2.0 and 6.0 inches of water. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of this range for any one reading.

The instrument used for determining the pressure shall comply with Condition C.11 - Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.9 Daily Visible Emission Notations

Daily visible emission notations of the conveyors, transfer points, aggregate storage piles, unpaved roads, and the mixing and drying operation stack exhaust, shall be performed during normal daylight operations. A trained employee record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail 80 percent of the time the process is in operation, not counting startup or shutdown time. 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. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emissions is observed.

D.1.10 Broken Bag or Failure Detection

In the event that bag failure has been observed:

- (a) The asphalt mixing and drying operation be shut down immediately until the units have been replaced.
- (b) Based upon the findings of the inspection, any additional corrective actions be devised within eight (8) hours of discovery and include a timetable for completion.

D.1.11 Preventive Inspections

The following inspections shall be performed for the mixing and drying operation, in accordance with the Preventive Maintenance Plan prepared pursuant to Condition B.13:

Daily (before starting production)

- (a) Drain water from baghouse air compressor tank(s) and or reservoir(s).
- (b) Drain water from water traps in air line.
- (c) Check baghouse air compressor for proper operation and air pressures.
- (d) Check exhaust fan and screw conveyor drives for proper operations.
- (e) Check damper for proper operation (i.e. opens and closes freely).
- (f) Preheat the baghouse per the manufacturer's instructions to dry out the bags.

Daily (while plant is in production)

- (a) Monitor pressure drops across filter.
- (b) Check exhaust plume for visible emissions.
- (c) Monitor inlet temperatures to baghouse.

Daily (after production is finished)

- (a) Pulse the bags clean.
- (b) Drain water from all trap(s), air tank(s), and reservoir(s).

Weekly (during operating season)

- (a) Check compressed air system for leaks.
- (b) Check duct work and baghouse housing for holes and air leaks.

Monthly (during operating season)

- (a) Check filter bags visually for leaks.
- (b) Check screw conveyor hanger bearings for wear and proper operations.
- (c) Check filter pulse system for proper operation.
- (d) Check exhaust fan drive belt tension.

Yearly (during the off season)

- (a) Check condition of bags to determine useful life remaining in bags.
- (b) Check baghouse structure and duct work for rust and worn places in steel.

Appropriate corrective actions shall be taken in accordance with Condition C.12.

D.1.12 Preventive Maintenance [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for this facility.

D.1.13 Waste Oil Firing

Pursuant to 329 IAC 3.1-11 (Standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities), the waste oil burned in the aggregate dryer burner shall meet the used oil specifications in 40 CFR 266 (Standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities), Subpart E (used oil burned for energy recovery), does not apply.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.14 Operational Parameters

The Permittee shall maintain a daily record for the baghouse controlling particulate matter emissions from asphalt mixing and drying operations of the following values:

- (a) Baghouse inlet temperature;
- (b) Inlet and outlet differential static pressure;
- (c) Visible observations;
- (d) Checklist with dates and initials for each preventive action performed; and
- (e) Records of corrective actions.

D.1.15 No. 2 Distillate Fuel Oil Usage and Equivalents

- (a) Complete and sufficient records shall be kept to establish compliance with the No. 2 distillate fuel oil and equivalents usage limits and sulfur dioxide emission limit established in this permit and contain a minimum of the following:
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Daily No. 2 distillate fuel oil usage plus equivalent No. 2 fuel oil usage from back-up fuels, and sulfur content;
 - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

- (4) Fuel supplier certifications.
- (b) The supplier certification shall contain, as a minimum, the following:
 - (1) The name of the supplier; and
 - (2) A statement from the oil supplier that certifies the sulfur content and heat content of the fuel oil.

D.1.16 Quarterly Reporting

A quarterly summary to document compliance with operation Condition D.1.5, shall be submitted to the address(es) listed in Section C.16 General Reporting Requirements, using the enclosed forms or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

(c) cold-mix (stockpile mix) asphalt manufacturing operations;

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 8-5-2]

D.2.1 Volatile Organic Compound (VOC)

Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain more than seven percent (7 percent) oil distillate by volume of emulsion for any paving application except the following purposes:

- 1) penetrating prime coating
- 2) stockpile storage
- 3) application during the months of November, December, January, February and March.

D.2.2 Cold-Mix (Stockpile Mix) Asphalt Concrete Usage

Production of emulsified asphalt binder (not to exceed 1 weight percent fuel oil) shall be limited to 8,021 per 12 month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-7 will not apply.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.2.3 Operational Parameters

The Permittee shall maintain records at the source of the amount of emulsified asphalt binder produced each month. The records shall be complete and sufficient to establish compliance with the emulsified asphalt binder production limit established in this permit. The records shall contain a minimum of the following:

- (a) emulsified asphalt binder produced in the current month;
- (b) emulsified asphalt binder produced last twelve (12) months;
- (c) type of asphalt used; and
- (d) percent fuel oil in asphalt.

D.2.4 Quarterly Reporting

A quarterly summary to document compliance with operation Condition D.2.2 shall be submitted, using the enclosed forms or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.3 FACILITY OPERATION CONDITIONS

- (d) one (1) 30,000 gallon asphalt cement storage tank (ID No. T-01);
- (e) two (2) 15,000 gallon asphalt cement storage tanks (ID No. T-02 and T-03);
- (f) one (1) 20,000 gallon fuel oil storage tank (ID No. T-04); and
- (g) one (1) 12,000 gallon fuel oil storage tank (ID No. T-05).

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [40 CFR Part 60.11b]

D.3.1 Volatile Organic Compounds (VOC)

Pursuant to 40 CFR 60.110b(b), the two (2) 15,000 gallon asphalt cement storage tanks (ID No. T-02 and T-03) and one (1) 12,000 gallon fuel oil storage tank (ID No. T-05) are subject to 60.116b, which requires that records be maintained showing the dimensions and analysis of the capacity of the tank (for tanks with capacities less than 19,813 gallons). Per 40 CFR 60.110b(c), the one (1) 30,000 gallon asphalt cement storage tank (ID No. T-01) and the one (1) 20,000 gallon fuel oil storage tank (ID No. T-04) are subject to 60.116b, which requires that records be maintained showing the dimensions and analysis of capacity of the tank and indicating the true vapor pressure of the stored VOC to be less than 15.0 kPa (for tanks with a capacity greater than 19,813 gallons but less than 39,890 gallons, and which have a maximum true vapor pressure of less than 15.0 kPa).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.3.2 Storage Vessel

The Permittee shall maintain records at the source showing:

- (a) the dimension of each storage vessel (tanks T-01, T-02, T-03, T-04, and T-05);
- (b) an analysis showing the capacity of each storage vessel (tanks T-01, T-02, T-03, T-04 and T-05); and
- (c) the true vapor pressure of each VOC stored, indicating that the maximum true vapor pressure of each VOC stored is less than 15.0 kPa (tanks T-01 and T-04).

General Construction Conditions

D.3.3 General Construction Conditions

The data and information supplied with the permit revision application shall be considered part of the permit revision 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 Management (OAM).

D.3.4

The 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.

State Form 47738 (5-96)

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Stoneco, Inc. Fort Wayne Drum Asphalt Plant
Source Address: 7320 Lower Huntington Road, Fort Wayne, IN 46809
FESOP No.: F003-5809-03281

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Deviation Occurrence Reporting Form (For Control Equipment Monitoring)
- 9 Deviation Occurrence Reporting Form (For Material Usage, Quality, Etc.)
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Other (specify) _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

State Form 47739 (5-96)

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 DEVIATION OCCURRENCE REPORT
 (For Control Equipment Monitoring Only)**

Source Name: Stoneco, Inc. Fort Wayne Drum Asphalt Plant
 Source Address: 7320 Lower Huntington Road, Fort Wayne, IN 46809
 FESOP No.: F003-5809-03281

A separate copy of this report must be submitted for **each** monitoring device on all control equipment listed in this permit. Attach a signed certification to complete this report.

Stack/Vent ID:	
Control Equipment: (ex: thermal oxidizer, scrubber, baghouses)	
Type of Parameter Monitored: (ex: temperature, pressure drop, efficiency)	
9 Continuously	9 Periodically, at a frequency of:
Parameter Operating Restrictions/Range: (ex: 1,400°F, 2-4 psi pressure drop)	
Report Covers From: (date: month-day-yr)	To:
9 No Deviations from the Parameter Restriction/Range Occurred During the Monitoring Period. Complete Records Maintained at the Facility Verify Compliance with this Condition.	
9 Summary of Deviations from the Parameter Restriction/Range During the Monitoring Period are Identified Below. Complete Records Maintained at the Facility.	

	For Parameter Recorded Continuously	For Parameter Recorded Periodically
Total Unit Operating Time		
Total Time of Deviations (Identify All Deviations)		
Percent of Time Indicating Deviations ($\frac{2}{1} \times 100$)		

Date of Deviation	Start/Stop Time of Deviation (Continuous Monitoring Only)	Actual Value Recorded	Reason for Deviation & Corrective Action Taken

State Form 47741 (5-96)

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) DEVIATION OCCURRENCE REPORT

Source Name: Stoneco, Inc. Fort Wayne Drum Asphalt Plant
Source Address: 7320 Lower Huntington Road, Fort Wayne, IN 46809
FESOP No.: F003-5809-03281

A separate copy of this report must be submitted for **each** material type, quantity usage and operation limitation (except control equipment monitoring) listed in this permit .
Attach a signed certification to complete this report.

Stack/Vent ID:
Equipment/Operation:
Parameter Subject to Material Type, Quantity Usage or Operation Limitations Specified in the Permit: (ex: 2500 pounds per day, 300 hours per yr, 5000 gallons per month)
Determination Period for this Parameter: (ex: 365-day rolling sum, fixed monthly rate)
9 Permit Has No Rate Limitations for this Parameter.
Content Restriction for this Parameter: (ex: maximum of 40 percent VOC in inks, 0.5 percent sulfur content)
Demonstration Method for this Parameter: (ex: MSDS, Supplier, material sampling & analysis)
9 Permit Has No Content Limitations for this Parameter.
Comments:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT, COMPLIANCE DATA SECTION
 FESOP Quarterly Report**

Source Name: Stoneco, Inc. Fort Wayne Drum Asphalt Plant
 Source Address: 7320 Lower Huntington Road, Fort Wayne, Indiana 46809
 FESOP No.: F003-5809-03281
 Facility: 91 million British thermal units per hour burner for the aggregate batch mix dryer
 Parameter: fuel consumption limitations
 Limits:

The consumption of No. 2 distillate fuel oil (not to exceed 0.49% sulfur content) plus equivalent No. 2 distillate fuel oil consumption from back-up fuels, shall be limited to 2,764,300 U.S. gallons per 365 day period, rolled on a daily basis. For the purposes of calculating equivalent No. 2 distillate fuel oil consumption from back-up fuels, the following conversion factors shall be utilized:

- 1) 1 million cubic feet of natural gas = 8.564e-3 kgal of No. 2 distillate fuel oil;
- 2) 1 kgal of LPG (not to exceed 0.01% sulfur) = 1.287e-5 kgal of No. 2 distillate fuel oil;
- 3) 1 kgal of No. 1 distillate fuel oil (not to exceed 0.48% sulfur) = 9.796e-1 kgal of No. 2 distillate fuel oil;
- 4) 1 kgal of No. 4 residual fuel oil (not to exceed 0.70% sulfur) = 1.509e+0 kgal of No. 2 distillate fuel oil;
- 5) 1 kgal of No. 5 residual fuel oil (not to exceed 0.87% sulfur) = 1.963e+0 kgal of No. 2 distillate fuel oil;
- 6) 1 kgal of No. 6 residual fuel oil (not to exceed 1.34% sulfur) = 3.024e+0 kgal of No. 2 dist. fuel oil; and
- 7) 1 kgal of re-refined waste oil (not to exceed 0.70% sulfur) = 1.479e+0 kgal of No. 2 dist. fuel oil.

During the first 365 days of operation under this permit, the total consumption of No. 2 distillate fuel oil plus equivalent No. 2 distillate fuel oil consumption from back-up fuels shall be limited such that the total gallons divided by the accumulated days of operation shall not exceed 7,573 U.S. gallons per day.

Month: _____ Year: _____

Day	No. 2 (+ equivalents) usage this day (gallons per day)	No. 2 (+ equivalents) usage for last 365 days (gallons per 365 days)	Day	No. 2 (+ equivalents) usage this day (gallons per day)	No. 2 (+equivalents) usage for last 365 days (gallons per 365 days)
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16					

9 No deviation occurred in this month.
 9 _____ Deviation(s) occurred in this month.
 Deviation(s) reported on: _____

Submitted by: _____
 Title/Position: _____
 Signature: _____
 Date: _____

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

FESOP Quarterly Report

Source Name: Stoneco, Inc. Fort Wayne Drum Asphalt Plant
Source Address: 7320 Lower Huntington Road, Fort Wayne, Indiana 46809
FESOP No.: F003-5809-03281
Facility: cold-mix (stockpile mix) asphalt manufacturing operations
Parameter: emulsified asphalt binder production
Limit: The amount of emulsified asphalt binder (not to exceed 1 weight percent fuel oil) production shall be limited to 8,021 tons per twelve (12) month period, rolled on a monthly basis

Month: _____ Year: _____

Month	Emulsified Asphalt Binder Production This Month (Tons per Month)	Emulsified Asphalt Binder Production for the Last 12 Months (Tons per 12 Months)

- 9 No deviation occurred in this month.
- 9 Deviations occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Significant Permit Revision to a FESOP

Source Background and Description

Source Name:	Stoneco, Inc. Fort Wayne Drum Asphalt Plant
Source Location:	7320 Lower Huntington Road, Fort Wayne, Indiana 46809
County:	Allen
SIC Code:	2951
Operation Permit No.:	F 003-5809-03281
Operation Permit Issuance Date:	December 13, 1996
Minor Permit Revision No.:	003-10892-03281
Permit Reviewer:	D.R. Poole

The Office of Air Management (OAM) has reviewed a permit revision application submitted by Stoneco, Inc. on April 22, 1999. The company intends on changing the maximum capacity of the drum mixer dryer, making capacity changes to several asphalt cement storage tanks, and making changes to and adding a fuel storage tank.

New Emission Units

The following new equipment shall be added to the source:

- (a) The capacity of the drum mixer dryer will be increased from 325 tons per year to 425 tons per year.
- (b) The capacity of asphalt tank T-01 will change from 18,000 gallons to 30,000 gallons.
- (c) The capacity of asphalt tank T-02 will change from 20,000 gallons to 15,000 gallons.
- (d) Tank T-03 will be used for asphalt cement storage instead of fuel oil storage. The capacity of the tank will change from 20,000 gallons to 15,000 gallons.
- (e) Tank T-04 will have a storage capacity of 20,000 gallons and be used for fuel oil storage.
- (f) Tank T-05 will have a storage capacity of 12,000 gallons and be used for fuel oil storage.

Insignificant Activities

There will be no change to the insignificant activities at this source as a result of the permit revision to the FESOP.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 22, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations. The emission increase related to the changes for the asphalt storage tanks and the fuel oil tanks have been determined to be minimal. These changes have no effect on the other emissions or the limitations.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source 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.”

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	35368
PM-10	8191
SO ₂	-
VOC	11.5
CO	-
NO _x	-

HAP's	Potential To Emit (tons/year)
Acetaldehyde	2.42
Acrolein	0.05
Benzene	0.76
Ethylbenzene	0.71
Formaldehyde	4.47
Methyl Ethyl Ketone	0.04
Quinone	0.3
Selenium	0.015
Toluene	1.4
Polycyclic Organic Matter	1.08
Xylene	0.3
TOTAL	11.5

Justification for Modification

The FESOP is being modified through a Significant Permit Revision. This revision is being performed pursuant to 326 IAC 2-8-11.1(f)(1)(E). This states that “any modification with the potential to emit greater than or equal to twenty-five tons per year...” of any of the criteria pollutants is a significant permit revision. The increase in particulate matter emissions from this capacity change is 8322 tons per year. The resultant PTE for particulate matter is 35,368 tons per year. These figures clearly exceed the 25 tons per year level.

County Attainment Status

The source is located in Allen County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Allen County has been classified as attainment or unclassifiable for all the criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	< 100
PM-10	99.0
SO ₂	99.0
VOC	99.0
CO	< 100
NOx	99.0

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

Potential to Emit of Modification After Issuance

The source has accepted federally enforceable limits for nitrogen oxides (NO_x), sulfur dioxide (SO₂) and volatile organic compounds (VOC) of 99 tons per year per pollutant. Based upon the request to modify the FESOP, the limitations have not changed.

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.

Facility	Potential to Emit (tons/year)						
	PM *	PM-10 *	SO ₂	VOC	CO	NO _x	HAPs
Dryer and burner	79.2	95.9	96.2	11.5	7.1	98.1	11.5
hot oil heater	0.1	0.1	2.8	0.0	0.2	0.9	0.0
conveying	0.6	0.3	0.0	0.0	0.0	0.0	0.0
unpaved roads	7.5	2.6	0.0	0.0	0.0	0.0	0.0
storage	0.2	0.1	0.0	0.0	0.0	0.0	0.0
cold mix storage	0.0	0.0	0.0	87.5	0.0	0.0	0.0
Total emissions	87.6	99.0	99.0	99.0	7.3	99.0	11.5

* Note: Limited PM/PM10 PTE levels have been revised to reflect the as limited PTE's rather than the controlled potential emissions. Based on the differences in the testing methods which demonstrate compliance for PM and PM-10 limitations, the PM-10 limitation pursuant to 326 IAC 2-8-4 is greater than the PM limitation pursuant to 326 IAC 12, 40 CFR 60.90, (based on 80, 000 acfm) because it includes the condensible portions in addition to filterable PM-10.

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

There are no changes to the applicability of Federal Rules due to the proposed significant revision to the FESOP.

In the FESOP Technical Support Document, it was stated that Tanks T-01, T-02, and T-03 were subject to New Source Performance Standard, Subpart Kb. All three tanks were constructed in 1986 and were subject to the rule. The only provision of the rule the tanks were subject to was 40 CFR 60.116b.

Now for tank T-01, with its capacity increasing from 18,000 gallons to 30,000 gallons, 40 CFR 60.116b is still the only provision that applies. For tank T-02 and T-03, 40 CFR 60.116b is the only provision that applies. For tank T-04, with its capacity decreasing from 22,000 gallons to 20,000 gallons, 40 CFR 60.116b is still the only provision that applies. For tank T-05, 40 CFR 60.116b is the only provision that applies.

State Rule Applicability

There are no changes to the applicability of State Rules due to the proposed significant revision to the FESOP.

Compliance Requirements

There are no changes to the compliance monitoring or record keeping and reporting requirements for the source as a result of the proposed significant revision to the FESOP.

Limiting Conditions

Conditions D.1.1 and D.1.2 had to be adjusted to change the pound per hour rate due to the change in the maximum capacity of the drum mix dryer.

Conclusion

The increase in the maximum capacity of the drum mix dryer and the changes to the asphalt cement storage tanks and fuel oil storage tanks shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 003-10892-03281.

C O: **0.20 ton/yr**

No. 2 Fuel Oil

**** aggregate dryer burner****

The following calculations determine the amount of emissions created by natural gas combustion, from the aggregate dryer burner, based on 8,760 hours of operation and US EPA's AP-42, 5th Edition, Section 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{1000 \text{ Btu/cf} * 2,000 \text{ lb/ton}}$	* Ef (lb/MMcf) = (ton/yr)
P M:	13.7 lb/MMcf =	8.10 ton/yr
P M-10:	13.7 lb/MMcf =	8.10 ton/yr
S O 2:	0.6 lb/MMcf =	0.35 ton/yr
N O x:	550.0 lb/MMcf =	325.22 ton/yr
V O C:	2.8 lb/MMcf =	1.66 ton/yr
C O:	40.0 lb/MMcf =	23.65 ton/yr

The following calculations determine the amount of emissions created by the combustion of liquified petroleum gas @ 0.01 % sulfur, from the aggregate dryer, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.5 - Liquified Petroleum Gas Combustion, Table 1.5-2.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{91,500 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	0.5 lb/1000 gal =	3.23 ton/yr
P M-10:	0.5 lb/1000 gal =	3.23 ton/yr
S O 2:	9.0E-04 lb/1000 gal =	5.8E-03 ton/yr
N O x:	15.0 lb/1000 gal =	96.93 ton/yr
V O C:	0.60 lb/1000 gal =	3.88 ton/yr
C O:	2.1 lb/1000 gal =	13.57 ton/yr

The following calculations determine the amount of emissions created by the combustion of #1 distillate fuel oil @ 0.48 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-2, 1.3-4, and 1.3-7.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{137,500 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	2.0 lb/1000 gal =	8.60 ton/yr
P M-10:	1.0 lb/1000 gal =	4.30 ton/yr
S O 2:	68.2 lb/1000 gal =	293.11 ton/yr
N O x:	24.0 lb/1000 gal =	103.21 ton/yr
V O C:	0.20 lb/1000 gal =	0.86 ton/yr
C O:	5.0 lb/1000 gal =	21.50 ton/yr

**** aggregate dryer burner****

The following calculations determine the amount of emissions created by the combustion of #2 distillate fuel oil @ 0.49 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-2, 1.3-4, and 1.3-7.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{140,000 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	2.0 lb/1000 gal =	8.45 ton/yr
P M-10:	1.0 lb/1000 gal =	4.22 ton/yr
S O 2:	69.6 lb/1000 gal =	293.88 ton/yr
N O x:	24.0 lb/1000 gal =	101.37 ton/yr
V O C:	0.20 lb/1000 gal =	0.84 ton/yr
C O:	5.0 lb/1000 gal =	21.12 ton/yr

The following calculations determine the amount of emissions created by the combustion of #4 residual fuel oil @ 0.70 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-2, 1.3-4, and 1.3-6.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{146,000 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	7.0 lb/1000 gal =	28.35 ton/yr
P M-10:	6.02 lb/1000 gal =	24.38 ton/yr
S O 2:	105.0 lb/1000 gal =	425.25 ton/yr
N O x:	47.0 lb/1000 gal =	190.35 ton/yr
V O C:	0.76 lb/1000 gal =	3.08 ton/yr
C O:	5.0 lb/1000 gal =	20.25 ton/yr

The following calculations determine the amount of emissions created by the combustion of #5 residual fuel oil @ 0.870 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-2, 1.3-4, and 1.3-6.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} * 8,760 \text{ hr/yr}}{155,837 \text{ Btu/gal} * 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	10.0 lb/1000 gal =	37.94 ton/yr
P M-10:	8.6 lb/1000 gal =	32.63 ton/yr
S O 2:	136.6 lb/1000 gal =	518.27 ton/yr
N O x:	47.0 lb/1000 gal =	178.33 ton/yr
V O C:	0.76 lb/1000 gal =	2.88 ton/yr
C O:	5.0 lb/1000 gal =	18.97 ton/yr

**** aggregate dryer burner****

The following calculations determine the amount of emissions created by the combustion of #6 residual fuel oil @ 1.340 % sulfur, from the aggregate dryer burner, based on 8,760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Tables 1.3-2, 1.3-4, and 1.3-6.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} \times 8,760 \text{ hr/yr}}{155,837 \text{ Btu/gal} \times 2,000 \text{ lb/ton}}$	* Ef (lb/1,000 gal) = (ton/yr)
P M:	15.5 lb/1000 gal =	58.94 ton/yr
P M-10:	13.4 lb/1000 gal =	50.69 ton/yr
S O 2:	210.4 lb/1000 gal =	798.26 ton/yr
N O x:	47.0 lb/1000 gal =	178.33 ton/yr
V O C:	0.76 lb/1000 gal =	2.88 ton/yr
C O:	5.0 lb/1000 gal =	18.97 ton/yr

The following calculations determine the amount of emissions created by the combustion of waste oil (#4 recycled) @ 0.7 % sulfur, 0.5 % ash, based on 8760 hours of use and US EPA's AP-42, 5th Edition, Section 1.11 - Waste Oil Combustion, Tables 1.11-1, 1.11-2, and 1.11-3.

Criteria Pollutant:	$\frac{135 \text{ MMBtu/hr} \times 8760 \text{ hr/yr}}{138,000 \text{ Btu/gal} \times 2000 \text{ lb/ton}}$	* Ef (lb/1000 gal) = (ton/yr)
P M:	30.5 lb/1000 gal =	130.69 ton/yr
P M-10:	25.5 lb/1000 gal =	109.26 ton/yr
S O 2:	102.9 lb/1000 gal =	440.90 ton/yr
N O x:	19.0 lb/1000 gal =	81.41 ton/yr
V O C:	1.0 lb/1000 gal =	4.28 ton/yr
C O:	5.0 lb/1000 gal =	21.42 ton/yr

The maximum potential emissions from the aggregate dryer burner due to fuel combustion are the following:

Criteria Pollutant:		Worst Case Fuel
P M:	130.69 ton/yr	Waste Oil
P M-10:	109.26 ton/yr	Waste Oil
S O 2:	798.26 ton/yr	No. 6 Fuel Oil
N O x:	178.33 ton/yr	No. 5 Oil / No. 6 Oil
V O C:	4.28 ton/yr	Waste Oil
C O:	21.50 ton/yr	No. 1 Fuel Oil

**** aggregate drying: drum-mix plant ****

The following calculations determine the amount of worst case emissions created by aggregate drying before controls, based on 8,760 hours of use and USEPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Tables 11.1-5 and 11.1-1 for a drum mix dryer which has the capability of combusting either fuel oil or natural gas:

$$\text{Pollutant: } \frac{\text{Ef lb/ton} \times 425 \text{ ton/hr} \times 8,760 \text{ hr/yr}}{2,000 \text{ lb/ton}}$$

Criteria Pollutant:			
P M:	19	lb/ton =	35,368.50 ton/yr
P M-10:	4.4	lb/ton =	8,190.60 ton/yr
VOC:	0.006187	lb/ton =	11.52 ton/yr

The VOC emission factor for aggregate drying includes HAP emissions which are assumed to be VOC.

**** conveying / handling ****

The following calculations determine the amount of emissions created by wet (>1.5% moisture) material handling, based on 8,760 hours of use and AP-42, Section 11.19.2, Table 11.19.2-2. Emission factors for process operations are as follows:

PM-10 Emissions Per Operation:

$$\frac{425 \text{ ton/hr} * 8,760 \text{ hrs/yr} * \text{Ef (lb/ton of material)} * \text{Number of Similar Operations}}{2,000 \text{ lb/ton}} = (\text{ton/yr})$$

Operation

Truck Loading: 1 operation(s) x 1.0E-04 lb/ton of material = 0.19 ton/yr

Conveyor Transfers: 4 operation(s) x 4.8E-05 lb/ton of material = 0.36 ton/yr

Total PM 10 Emissions: 0.54 ton/yr
Total PM Emissions: 1.14 ton/yr

Total PM Emissions (tons/yr) = 2.1 * Total PM-10 Emissions (tons/yr) based on US EPA's AP-42, 5th Edition, Section 11.19.2, Table 11.19.2-2, footnote c.

**** unpaved roads ****

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8,760 hours of use and AP-42, Ch 11.2.1.

I. Dump Trucks

$$\begin{aligned} & 22 \text{ trip/hr} \times \\ & 0.0625 \text{ mile/trip} \times \\ & 2 \text{ (round trip) } \times \\ & 8,760 \text{ hr/yr} = \end{aligned} \quad 24090 \text{ miles per year}$$

$$\begin{aligned} \text{Ef} &= k * 5.9 * (s/12) * (S/30) * (W/3)^{0.7} * (w/4)^{0.5} * ((365-p)/365) \\ &= 0.87 \text{ lb/mile} \end{aligned}$$

- where k = 0.8 (particle size multiplier)
- s = 2.2 % silt content of unpaved roads
- p = 125 days of rain greater than or equal to 0.01 inches
- S = 5 miles/hr vehicle speed
- W = 26 tons average vehicle weight
- w = 16 wheels

$$\frac{0.87 \text{ lb/mi} \times 24090 \text{ mi/yr}}{2000 \text{ lb/ton}} = 10.43 \text{ tons/yr}$$

P M-10: 35% of PM = 3.65 tons/yr

**** unpaved roads ****

II. Front End Loader

$$\begin{aligned}
 & 62 \text{ trip/hr} \times \\
 & 0.02 \text{ mile/trip} \times \\
 & 2 \text{ (round trip) } \times \\
 & 8,760 \text{ hr/yr} = \qquad \qquad \qquad 21724.8 \text{ miles per year}
 \end{aligned}$$

$$\begin{aligned}
 E_f &= k \cdot 5.9 \cdot (s/12) \cdot (S/30) \cdot (W/3)^{0.7} \cdot (w/4)^{0.5} \cdot ((365-p)/365) \\
 &= 0.42 \text{ lb/mile} \\
 \text{where } k &= 0.8 \text{ (particle size multiplier)} \\
 s &= 2.2 \text{ \% silt content of unpaved roads} \\
 p &= 125 \text{ days of rain greater than or equal to 0.01 inches} \\
 S &= 5 \text{ miles/hr vehicle speed} \\
 W &= 26 \text{ tons average vehicle weight} \\
 w &= 4 \text{ wheels}
 \end{aligned}$$

$$\frac{0.42 \text{ lb/mi} \times 21724.8 \text{ mi/yr}}{2000 \text{ lb/ton}} = 4.61 \text{ tons/yr}$$

P M-10: 35% of PM = 1.61 tons/yr

Total PM Emissions From Unpaved Roads = 15.04 tons/yr

Total PM-10 Emissions From Unpaved Roads = 5.26 tons/yr

**** storage ****

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

Material	Silt Content (wt %)	Pile Size (acres)	Storage Capacity (tons)	P M Emissions tons/yr	P M-10 Emissions tons/yr
Sand	1.1	0.49	15,000	0.11	0.04
Stone	1.1	1.16	30,000	0.27	0.09
RAP	0.8	0.47	15,000	0.08	0.03
Total				0.46	0.16

Sample Calculation:

$$\begin{aligned}
 E_f &= 1.7 \cdot (s/1.5) \cdot (365-p)/235 \cdot (f/15) \\
 &= 1.27 \text{ lb/acre/day} \\
 \text{where } s &= 1.1 \text{ \% silt} \\
 p &= 125 \text{ days of rain greater than or equal to 0.01 inches} \\
 f &= 15 \text{ \% of wind greater than or equal to 12 mph}
 \end{aligned}$$

$$E_p \text{ (storage)} = \frac{E_f \cdot (\text{Pile Size in acres}) \cdot (365 \text{ day/yr})}{(2,000 \text{ lb/ton})}$$

Pile Size = 0.49 acres

PM = 0.11 tons/yr P M-10: 35% of PM = 0.04 tons/yr

****cold mix VOC storage emissions ****

The following calculations determine the amount of VOC emissions created by the application of emulsified asphalt with 1.0% fuel oil in emulsified asphalt mix, based on 8,760 hours of operation.

VOC Emission Factor = 0.07 weight percent flash-off of cold mix
Potential Throughput (tons/yr) = 3,723,000 tons/yr stockpile mix

Potential VOC Emissions (tons/yr) = Potential Throughput (tons/yr) * VOC Emission Factor (wt% flash-off)
Potential VOC Emissions = 2,606.10 tons/yr

* Weight percent flash-off is based on a 7.0 weight percent of emulsified asphalt mix in stockpile mix.

**** summary of source emissions before controls ****

Criteria Pollutants:

P M: 35,515.91 ton/yr
P M-10: 8,305.90 ton/yr
S O 2: 801.09 ton/yr
N O x: 179.27 ton/yr
V O C: 2,621.94 ton/yr
C O: 21.71 ton/yr

(VOCs include HAPs from aggregate drying operation)

**** source emissions after controls ****

In order to qualify for the FESOP program, this facility must limit PM10, NOx, VOC and SO2 emissions to 99.0 tons per year. Consequently, SO2 emissions from the aggregate dryer must be limited to 96.17 tons per year (99.0 ton/yr - 2.83 ton/yr from the hot oil heater).

* Emissions of PM and PM-10 from aggregate drying operations are controlled with a 99.885 % control efficiency.

The following calculations determine the amount of emissions created by natural gas combustion based on the maximum unit capacity of ***** cf

Natural Gas:	<u>1,182.600 MMcf/yr</u>	* Ef (lb/MMcf) = (ton/yr)
	2,000 lb/ton	
PM:	13.7 lb/MMcf =	9.32E-03 ton/yr *
PM-10:	13.7 lb/MMcf =	9.32E-03 ton/yr *
SO2:	0.6 lb/MMcf =	0.35 ton/yr
NOx:	550.0 lb/MMcf =	325.22 ton/yr
VOC:	2.8 lb/MMcf =	1.66 ton/yr
CO:	40.0 lb/MMcf =	23.65 ton/yr

The following calculations determine the amount of emissions created by liquified petroleum gas @ 0.010 % sulfur based on the maximum unit capacity of 12,924,590 gal/yr:

Liquified Petroleum Gas	<u>12,924,590 gal/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
PM:	0.5 lb/1000 gal =	3.72E-03 ton/yr *
PM-10:	0.5 lb/1000 gal =	3.72E-03 ton/yr *
SO2:	9.0E-04 lb/1000 gal =	6.69E-06 ton/yr
NOx:	15.0 lb/1000 gal =	96.93 ton/yr
VOC:	0.6 lb/1000 gal =	3.88 ton/yr
CO:	2.1 lb/1000 gal =	13.57 ton/yr

The following calculations determine the amount of emissions created by No.1 distillate fuel oil @ 0.48 % sulfur based on a fuel usage limitation of 2,821,890 gal/yr:

No. 1 Distillate Oil:	<u>2,821,890 gal/yr</u>	* Ef (lb/1,000 gal) = (ton/yr)
	2,000 lb/ton	
PM:	2.0 lb/1000 gal =	3.25E-03 ton/yr *
PM-10:	1.0 lb/1000 gal =	1.62E-03 ton/yr *
SO2:	68.2 lb/1000 gal =	96.17 ton/yr
NOx:	24.0 lb/1000 gal =	33.86 ton/yr
VOC:	0.2 lb/1000 gal =	0.28 ton/yr
CO:	5.0 lb/1000 gal =	7.05 ton/yr

**** source emissions after controls ****

The following calculations determine the amount of emissions created by No.2 distillate fuel oil @ 0.49 % sulfur based on a fuel usage limitation of 2,764,300 gal/yr:

No. 2 Distillate Oil: $\frac{2,764,300 \text{ gal/yr}}{2,000 \text{ lb/ton}}$ * Ef (lb/1,000 gal) = (ton/yr)

P M:	2.0 lb/1000 gal =	3.18E-03 ton/yr *
P M-10:	1.0 lb/1000 gal =	1.59E-03 ton/yr *
S O 2:	69.6 lb/1000 gal =	96.17 ton/yr
N O x:	24.0 lb/1000 gal =	33.17 ton/yr
V O C:	0.2 lb/1000 gal =	0.28 ton/yr
C O:	5.0 lb/1000 gal =	6.91 ton/yr

The following calculations determine the amount of emissions created by No. 4 residual oil @ 0.70 % sulfur based on a fuel usage limitation of 1,831,810 gal/yr:

No. 4 Residual Oil: $\frac{1,831,810 \text{ gal/yr}}{2000 \text{ lb/ton}}$ * Ef (lb/1000 gal) = (ton/yr)

P M:	7.0 lb/1000 gal =	7.37E-03 ton/yr *
P M-10:	6.0 lb/1000 gal =	6.34E-03 ton/yr *
S O 2:	105.0 lb/1000 gal =	96.17 ton/yr
N O x:	47.0 lb/1000 gal =	43.05 ton/yr
V O C:	0.8 lb/1000 gal =	0.70 ton/yr
C O:	5.0 lb/1000 gal =	4.58 ton/yr

The following calculations determine the amount of emissions created by No. 5 residual oil @ 0.87 % sulfur based on a fuel usage limitation of 1,408,156 gal/yr:

No. 5 Residual Oil: $\frac{1,408,156 \text{ gal/yr}}{2000 \text{ lb/ton}}$ * Ef (lb/1000 gal) = (ton/yr)

P M:	10.0 lb/1000 gal =	8.10E-03 ton/yr *
P M-10:	8.6 lb/1000 gal =	6.96E-03 ton/yr *
S O 2:	136.6 lb/1000 gal =	96.17 ton/yr
N O x:	47.0 lb/1000 gal =	33.09 ton/yr
V O C:	0.8 lb/1000 gal =	0.54 ton/yr
C O:	5.0 lb/1000 gal =	3.52 ton/yr

**** source emissions after controls ****

The following calculations determine the amount of emissions created by No. 6 residual oil @ 1.34 % sulfur based on a fuel usage limitation of 914,250 gal/yr:

No. 6 Residual Oil:	<u>914,250 gal/yr</u>	* Ef (lb/1000 gal) = (ton/yr)
	2000 lb/ton	
P M:	15.5 lb/1000 gal =	8.17E-03 ton/yr *
P M-10:	13.4 lb/1000 gal =	7.02E-03 ton/yr *
S O 2:	210.4 lb/1000 gal =	96.17 ton/yr
N O x:	47.0 lb/1000 gal =	21.48 ton/yr
V O C:	0.8 lb/1000 gal =	0.35 ton/yr
C O:	5.0 lb/1000 gal =	2.29 ton/yr

The following calculations determine the amount of emissions created by waste oil @ 0.70 % sulfur based on a fuel usage limitation of 1,869,193 gal/yr:

Waste Oil:	<u>1,869,193 gal/yr</u>	* Ef (lb/1000 gal) = (ton/yr)
	2000 lb/ton	
P M:	30.5 lb/1000 gal =	0.03 ton/yr *
P M-10:	25.5 lb/1000 gal =	0.03 ton/yr *
S O 2:	102.9 lb/1000 gal =	96.17 ton/yr
N O x:	19.0 lb/1000 gal =	17.76 ton/yr
V O C:	1.0 lb/1000 gal =	0.93 ton/yr
C O:	5.0 lb/1000 gal =	4.67 ton/yr

Criteria Pollutant:

P M:	0.03 ton/yr	Worst Case Fuel
P M-10:	0.03 ton/yr	Waste Oil
S O 2:	96.17 ton/yr	Waste Oil
N O x:	96.93 ton/yr	All Fuel Oils
V O C:	3.88 ton/yr	Liquified Petroleum Gas
C O:	23.65 ton/yr	Liquified Petroleum Gas
		No.1 Fuel Oil

**** source emissions after controls ****

Fuel Usage Limitations

Fuel Oil: #2 distillate oil

$$\frac{96.17 \text{ tons SO}_2/\text{year limited}}{293.88 \text{ tons SO}_2/\text{year potential}} * 8447.14 \frac{\text{Kgals}}{\text{year potential}} = 2764.300 \frac{\text{Kgals}}{\text{year limited}}$$

Fuel equivalence limit for natural gas based on SO2 emissions from #2 distillate fuel oil:

$$\frac{0.35 \text{ n.g. potential emis. (ton/yr)}}{1182.6 \text{ n.g. potential usage (MMCF/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 8.507\text{E-}03 \frac{\text{No. 2 fuel oil}}{\text{MMCF n.g. burned}}$$

Fuel equivalence limit for liquified petroleum gas based on SO2 emissions from #2 distillate fuel oil:

$$\frac{0.0058 \text{ LPG potential emis. (ton/yr)}}{12924.59 \text{ LPG potential usage (kgal/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 1.290\text{E-}05 \frac{\text{No. 2 fuel oil}}{\text{Kgal LPG burned}}$$

Fuel equivalence limit for #1 distillate fuel oil based on SO2 emissions from #2 distillate fuel oil:

$$\frac{293.11 \text{ #1 F.O. potential emis. (ton/yr)}}{8600.73 \text{ #1 F.O. potential usage (kgal/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 9.796\text{E-}01 \frac{\text{No. 2 fuel oil}}{\text{Kgal #1 F.O. burned}}$$

Fuel equivalence limit for #4 residual fuel oil based on SO2 emissions from #2 distillate fuel oil:

$$\frac{425.25 \text{ #4 F.O. potential emis. (ton/yr)}}{8100.00 \text{ #4 F.O. potential usage (kgal/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 1.509\text{E+}00 \frac{\text{No. 2 fuel oil}}{\text{Kgal #4 F.O. burned}}$$

Fuel equivalence limit for #5 residual fuel oil based on SO2 emissions from #2 distillate fuel oil:

$$\frac{518.27 \text{ #5 F.O. potential emis. (ton/yr)}}{7588.70 \text{ #5 F.O. potential usage (kgal/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 1.963\text{E+}00 \frac{\text{No. 2 fuel oil}}{\text{Kgal #5 F.O. burned}}$$

Fuel equivalence limit for #6 residual fuel oil based on SO2 emissions from #2 distillate fuel oil:

$$\frac{798.26 \text{ #6 F.O. potential emis. (ton/yr)}}{7588.70 \text{ #6 F.O. potential usage (kgal/yr)}} / \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}} = 3.024\text{E+}00 \frac{\text{No. 2 fuel oil}}{\text{Kgal #6 F.O. burned}}$$

**** source emissions after controls ****

Fuel equivalence limit for waste oil based on SO2 emissions from #2 distillate fuel oil:

$$\frac{440.90 \text{ waste oil potential emis. (ton/yr)}}{8569.57 \text{ waste oil potential usage (kgal/yr)}} \div \frac{293.88 \text{ #2 F.O. potential emissions (ton/yr)}}{8447.14 \text{ #2 F.O. potential usage (kgal/yr)}}$$

$$= \frac{1.479E+00 \text{ No. 2 fuel oil}}{\text{Kgal waste oil burned}}$$

	aggregate drying:	nonfugitive		
P M:	35,369 ton/yr x	0.11%	emitted after controls =	40.67 ton/yr
P M-10:	8,191 ton/yr x	0.11%	emitted after controls =	9.42 ton/yr
	bin loading & conveying:	fugitive		
P M:	1.14 ton/yr x	50%	emitted after controls =	0.57 ton/yr
P M-10:	0.54 ton/yr x	50%	emitted after controls =	0.27 ton/yr
	unpaved roads:	fugitive		
P M:	15.04 ton/yr x	50%	emitted after controls =	7.52 ton/yr
P M-10:	5.26 ton/yr x	50%	emitted after controls =	2.63 ton/yr
	storage piles:	fugitive		
P M:	0.46 ton/yr x	50%	emitted after controls =	0.23 ton/yr
P M-10:	0.16 ton/yr x	50%	emitted after controls =	0.08 ton/yr
	cold mix VOC storage:	fugitive		
VOC:	2,606 ton/yr x	125,000 Limited Throughput (tons/yr)	=	87.50 ton/yr
		3,723,000 Potential Throughput (tons/yr)		

*125,000 tons of stockpile mix is equivalent to 8,750 tons of emulsified asphalt binder (based on 7 weight percent of emulsified asphalt in the stockpile mix).

*When accepting a limit in tons per 12 month period, rolled on a monthly basis, the limit must be truncated by a factor of 11/12 due to a loss of detail in this method of reporting.

8,750 tons per year * (11/12) = 8,021 tons per year

**** summary of source emissions after controls ****

Criteria Pollutant:	Non-Fugitive	Fugitive	Total
PM:	40.79 ton/yr	8.32 ton/yr	49.11 ton/yr
PM-10:	9.51 ton/yr	2.98 ton/yr	12.50 ton/yr
S O 2:	99.00 ton/yr	0.00 ton/yr	99.00 ton/yr
N O x:	97.87 ton/yr	0.00 ton/yr	97.87 ton/yr
V O C:	15.43 ton/yr	87.50 ton/yr	102.93 ton/yr
C O:	23.86 ton/yr	0.00 ton/yr	23.86 ton/yr

**** miscellaneous ****

326 IAC 7 Compliance Calculations:

The following calculations determine the maximum sulfur content of distillate fuel oil (No. 1 Oil) allowable by 326 IAC 7:

$$\begin{aligned} 0.5 \text{ lb/MMBtu} \times 137,500 \text{ Btu/gal} &= 68.75 \text{ lb/1000gal} \\ 68.75 \text{ lb/1000gal} / 142 \text{ lb/1000 gal} &= 0.48 \% \end{aligned}$$

Sulfur content must be less than or equal to 0.48% to comply with 326 IAC 7.

The following calculations determine the maximum sulfur content of distillate fuel oil (No. 2 Oil) allowable by 326 IAC 7:

$$\begin{aligned} 0.5 \text{ lb/MMBtu} \times 140,000 \text{ Btu/gal} &= 70 \text{ lb/1000gal} \\ 70 \text{ lb/1000gal} / 142 \text{ lb/1000 gal} &= 0.49 \% \end{aligned}$$

Sulfur content must be less than or equal to 0.49% to comply with 326 IAC 7.

The following calculations determine the maximum sulfur content of residual oil (No. 4 Oil) allowable by 326 IAC 7:

$$\begin{aligned} 1.6 \text{ lb/MMBtu} \times 146,000 \text{ Btu/gal} &= 233.6 \text{ lb/1000gal} \\ 233.6 \text{ lb/1000gal} / 150 \text{ lb/1000 gal} &= 1.56 \% \end{aligned}$$

Sulfur content must be less than or equal to 1.56% to comply with 326 IAC 7.

The following calculations determine the maximum sulfur content of residual oil (No. 5 Oil) allowable by 326 IAC 7:

$$\begin{aligned} 1.6 \text{ lb/MMBtu} \times 155,837 \text{ Btu/gal} &= 249.3392 \text{ lb/1000gal} \\ 249.3392 \text{ lb/1000gal} / 150 \text{ lb/1000 gal} &= 1.66 \% \end{aligned}$$

Sulfur content must be less than or equal to 1.66% to comply with 326 IAC 7.

The following calculations determine the maximum sulfur content of residual oil (No. 6 Oil) allowable by 326 IAC 7:

$$\begin{aligned} 1.6 \text{ lb/MMBtu} \times 155,837 \text{ Btu/gal} &= 249.3392 \text{ lb/1000gal} \\ 249.3392 \text{ lb/1000gal} / 150 \text{ lb/1000 gal} &= 1.66 \% \end{aligned}$$

Sulfur content must be less than or equal to 1.66% to comply with 326 IAC 7.

The following calculations determine the maximum sulfur content of residual oil (Waste Oil) allowable by 326 IAC 7:

$$\begin{aligned} 1.6 \text{ lb/MMBtu} \times 138,000 \text{ Btu/gal} &= 220.8 \text{ lb/1000gal} \\ 220.8 \text{ lb/1000gal} / 150 \text{ lb/1000 gal} &= 1.47 \% \end{aligned}$$

Sulfur content must be less than or equal to

1.47% to comply with 326 IAC 7.

**** miscellaneous ****

326 IAC 6-3-2 Compliance Calculations:

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates in excess of 30 tons per hour:

$$\text{limit} = 55 * (425 ^{0.11}) - 40 = 67.03 \text{ lb/hr or } 293.57 \text{ ton/yr}$$

Limit truncated to avoid PSD requirements:

$$(249.0 \text{ tons/yr} - 8.3 \text{ tons/yr for non-dryer emissions}) = 240.7 \text{ tons per year (55.0 pounds per hour)}$$

PM emissions from the aggregate dryer are controlled to 29.5 tons per year < 240.7 tons per year (will comply)

PM-10 Emission Limit:

$$(99.0 \text{ tons PM}_{10}/\text{yr} - 3.0 \text{ tons PM}_{10}/\text{yr for non-dryer emissions}) = 96.0 \text{ tons per year}$$

; PM₁₀ emissions from aggregate dryer are controlled to 7.2 tons per year < 96.0 tons per year. (will comply)

40 CFR Part 60.90, Subpart I (Standards of Performance for Hot Mix Asphalt Plants) Compliance Calculations:

The following calculations determine compliance with NSPS, which limits stack emissions from asphalt plants to 0.04 gr/dscf:

$$\frac{40.67 \text{ ton/yr} * 2000 \text{ lb/ton} * 7000 \text{ gr/lb}}{525,600 \text{ min/yr} * 21,446 \text{ dscf/min}} = 0.051 \text{ gr/dscf (will not comply)}$$

Note:

$$\begin{aligned} \text{SCFM} &= 28,960 \text{ acfm} * (460 + 68) / (460 + 253) \\ &= 21,446 \text{ scfm} \end{aligned}$$

Hazardous Air Pollutants (HAPs)

** aggregate dryer burner**

The following calculations determine the amount of HAP emissions created by the combustion of residual oil before & after controls, from the aggregate dryer burner, based on 8760 hours of use and US EPA's AP-42, 5th Edition, Section 1.3 - Fuel Oil Combustion, Table 1.3-11.

Hazardous Air Pollutants (HAPs):	135 MMBtu/hr * 8760 hr/yr 2,000 lb/ton	* Ef (lb/10 ¹² Btu) = (ton/yr)	Potential To Emit	Limited Emissions
Antimony:	46 lb/10 ¹² Btu =		2.72E-02 ton/yr	3.13E-05 ton/yr
Arsenic:	114 lb/10 ¹² Btu =		6.74E-02 ton/yr	7.75E-05 ton/yr
Beryllium:	4.2 lb/10 ¹² Btu =		2.48E-03 ton/yr	2.86E-06 ton/yr
Cadmium:	211 lb/10 ¹² Btu =		1.25E-01 ton/yr	1.43E-04 ton/yr
Chromium:	128 lb/10 ¹² Btu =		7.57E-02 ton/yr	8.70E-05 ton/yr
Cobalt:	121 lb/10 ¹² Btu =		7.15E-02 ton/yr	8.23E-05 ton/yr
Lead:	194 lb/10 ¹² Btu =		1.15E-01 ton/yr	1.32E-04 ton/yr
Manganese:	74 lb/10 ¹² Btu =		4.38E-02 ton/yr	5.03E-05 ton/yr
Mercury:	32 lb/10 ¹² Btu =		1.89E-02 ton/yr	2.18E-05 ton/yr
Nickel:	2330 lb/10 ¹² Btu =		1.38E+00 ton/yr	1.58E-03 ton/yr
Selenium:	38 lb/10 ¹² Btu =		2.25E-02 ton/yr	2.58E-05 ton/yr
	Total HAPs =		1.90E+00 ton/yr	2.18E-03 ton/yr

** aggregate drying: drum-mix plant **

The following calculations determine the amount of HAP emissions created by aggregate drying before & after controls, based on 8,760 hours of use and USEPA's AP-42, 5th Edition, Section 11.1 - Hot Mix Asphalt Plants, Table 11.1-10 for a drum mix dryer which can be fired with either fuel oil or natural gas. The HAP emission factors represent the worst case emissions (fuel oil combustion).

Pollutant:	Ef	lb/ton x	425 ton/hr x 2000 lb/ton	8760 hr/yr	Potential To Emit	Limited Emissions
Acetaldehyde:	1.30E-03	lb/ton =			2.42E+00 ton/yr	2.42 ton/yr
Acrolein:	2.60E-05	lb/ton =			4.84E-02 ton/yr	0.05 ton/yr
*Benzene:	4.10E-04	lb/ton =			7.63E-01 ton/yr	0.76 ton/yr
Ethylbenzene:	3.80E-04	lb/ton =			7.07E-01 ton/yr	0.71 ton/yr
*Formaldehyde:	2.40E-03	lb/ton =			4.47E+00 ton/yr	4.47 ton/yr
Methyl Ethyl Ketone:	2.00E-05	lb/ton =			3.72E-02 ton/yr	0.04 ton/yr
Quinone:	1.60E-04	lb/ton =			2.98E-01 ton/yr	0.30 ton/yr
Toluene:	7.50E-04	lb/ton =			1.40E+00 ton/yr	1.40 ton/yr
**Total Polycyclic Organic Matter (POM):	5.810E-04	lb/ton =			1.08E+00 ton/yr	1.08 ton/yr
*Xylene:	1.60E-04	lb/ton =			2.98E-01 ton/yr	0.30 ton/yr
					Total HAPs :	11.52 ton/yr

* The emission factors for benzene, formaldehyde, and xylene from natural gas firing (0.0012 lb/ton, 0.0036 lb/ton, and 0.0004 lb/ton, respectively) exceed the benzene, formaldehyde, and xylene emission factors for fuel oil firing (0.00041 lb/ton, 0.0024 lb/ton, and 0.00016 lb/ton, respectively). Consequently, the worst case emissions for benzene, formaldehyde, and xylene are 1.71 ton/yr, 5.12 ton/yr, and 0.57 ton/yr, respectively. However, since the VOC emissions from fuel oil combustion exceed the VOC emissions from natural gas firing, the fuel oil emission factors were used to avoid overestimating total VOC emissions.

** total POM includes 2-Methylnaphthalene, Acenaphthylene, Anthracene, Fluorene, Naphthalene, Phenanthrene, and Pyrene.

**** summary of source HAP emissions potential to emit ****

Hazardous Air Pollutants (HAPs):

Acetaldehyde:	2.420 ton/yr
Acrolein:	0.048 ton/yr
Antimony:	0.027 ton/yr
Arsenic:	0.067 ton/yr
Benzene:	0.763 ton/yr
Beryllium:	0.002 ton/yr
Cadmium:	0.125 ton/yr
Chromium:	0.076 ton/yr
Cobalt:	0.072 ton/yr
Ethylbenzene:	0.707 ton/yr
Formaldehyde:	4.468 ton/yr
Lead:	0.115 ton/yr
Manganese:	0.044 ton/yr
Mercury:	0.019 ton/yr
Methyl Ethyl Ketone:	0.037 ton/yr
Nickel:	1.378 ton/yr
Quinone:	0.298 ton/yr
Selenium:	0.022 ton/yr
Toluene:	1.396 ton/yr
Total POM:	1.082 ton/yr
Xylene:	0.298 ton/yr
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TOTAL:	13.464

**** summary of source HAP limited emissions ****

Hazardous Air Pollutants (HAPs):

Acetaldehyde:	2.420 ton/yr
Acrolein:	0.048 ton/yr
Antimony:	0.000 ton/yr
Arsenic:	0.000 ton/yr
Benzene:	0.763 ton/yr
Beryllium:	0.000 ton/yr
Cadmium:	0.000 ton/yr
Chromium:	0.000 ton/yr
Cobalt:	0.000 ton/yr
Ethylbenzene:	0.707 ton/yr
Formaldehyde:	4.468 ton/yr
Lead:	0.000 ton/yr
Manganese:	0.000 ton/yr
Mercury:	0.000 ton/yr
Methyl Ethyl Ketone:	0.037 ton/yr
Nickel:	0.002 ton/yr
Quinone:	0.298 ton/yr
Selenium:	0.000 ton/yr
Toluene:	1.396 ton/yr
Total Polycyclic Organic Matter:	1.082 ton/yr
Xylene:	0.298 ton/yr
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TOTAL:	11.519

