



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

6/8/2011

Bruce Bailey
Zanesville Energy, LLC
7624 Riverview Road
Cleveland, OH 44141

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0660015007
Permit Number: P0108034
Permit Type: Initial Installation
County: Muskingum

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Zanesville Energy, LLC**

Facility ID:	0660015007
Permit Number:	P0108034
Permit Type:	Initial Installation
Issued:	6/8/2011
Effective:	6/8/2011
Expiration:	10/13/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
Zanesville Energy, LLC

Table of Contents

Authorization 1
A. Standard Terms and Conditions 3
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 4
2. Who is responsible for complying with this permit? 4
3. What records must I keep under this permit? 4
4. What are my permit fees and when do I pay them?..... 4
5. When does my PTIO expire, and when do I need to submit my renewal application? 4
6. What happens to this permit if my project is delayed or I do not install or modify my source? 5
7. What reports must I submit under this permit? 5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? 5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? 6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? 6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? 6
13. Can I transfer this permit to a new owner or operator?..... 7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? 7
15. What happens if a portion of this permit is determined to be invalid? 7
B. Facility-Wide Terms and Conditions..... 8
C. Emissions Unit Terms and Conditions 10
1. F002, Material Storage Piles 11

Authorization

Facility ID: 0660015007
Application Number(s): A0041756
Permit Number: P0108034
Permit Description: Storage piles of yardwaste, compost, soil, and wood mulch for the iADS (dry digester)
Permit Type: Initial Installation
Permit Fee: \$200.00
Issue Date: 6/8/2011
Effective Date: 6/8/2011
Expiration Date: 10/13/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Zanesville Energy, LLC
6400 Maysville Pike
Zanesville, OH 43701

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

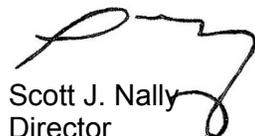
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office
2195 Front Street
Logan, OH 43138
(740)385-8501

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0108034

Permit Description: Storage piles of yardwaste, compost, soil, and wood mulch for the iADS (dry digester)

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	F002
Company Equipment ID:	F002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Southeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

¹Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.

C. Emissions Unit Terms and Conditions



1. F002, Material Storage Piles

Operations, Property and/or Equipment Description:

Load-in, load-out, and wind erosion from storage piles associated with the iADS (dry digester); includes incoming feedstocks, digested feedstocks, yardwaste, and soil/mulch, maximum of 2 acres total.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), effective 11/30/01	Fugitive particulate emissions (PE) shall not exceed 4.34 tons per year. There shall be no visible PE except for one minute during any 60-minute period. Compliance with the Best Available Technology includes compliance with RACM. See b)(2)a. and b)(2)c. through b)(2)k. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/06	See b)(2)b. below.
c.	OAC rule 3745-17-07(B)	Visible fugitive PE shall not exceed 13 minutes during any 60-minute period. This limit applies once U.S. EPA



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.
d.	OAC rule 3745-17-08(B)	The permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust. See b)(2)c. through b)(2)k. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirements to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006, version of 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the uncontrolled potential to emit for PE is less than ten tons per year.

c. The storage piles that are covered by this permit and subject to the above-mentioned requirements are listed below:

Incoming Feedstocks

Digested Feedstocks

Yardwaste

Soil/Mulch

- d. The load-in and load-out operations covered by this permit are listed below:
- Incoming Feedstocks
 - Digested Feedstocks
 - Yardwaste
 - Soil/Mulch
- e. The permittee shall employ reasonably available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to control fugitive emissions by watering the piles to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- f. The operator shall avoid dragging any front-end loader bucket along the ground. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- g. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
- h. The permittee shall employ reasonably available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the application, the permittee shall water the storage piles to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- i. The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
- j. The permittee shall operate this facility in such a manner that it does not become offensive or objectionable to the public in violation of OAC rule 3745-15-07. If an odor resulting from facility operations is detected at the property line, the permittee shall institute all available mitigation measures. Odor mitigation



measures deemed appropriate by the Director to protect the comfort, repose, health or safety of the public shall be implemented upon request.

k. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the applicable requirements of OAC rule 3745-31-05 and OAC rule 3745-17-08.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

Table with 2 columns: Storage pile identification, Minimum load-in frequency. Rows include Incoming Feedstock, Digested Feedstock, Yardwaste, and Soil/Mulch, all with a frequency of Daily.

(2) The permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

Table with 2 columns: Storage pile identification, Minimum load-out inspection frequency. Rows include Incoming Feedstock, Digested Feedstock, Yardwaste, and Soil/Mulch, all with a frequency of Daily.

(3) The permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

Table with 2 columns: Storage pile identification, Minimum wind erosion inspection frequency. Rows include Incoming Feedstock, Digested Feedstock, Yardwaste, and Soil/Mulch, all with a frequency of Daily.

- (4) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
- (5) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.
- (6) The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. the dates the control measures were implemented; and
 - d. On a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).
 - e. The information required in d)(6)d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.
- e) Reporting Requirements
 - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- f) Testing Requirements
 - (1) Compliance with the emission limitation in b)(1) of these terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emissions Limitation:

Fugitive PE shall not exceed 4.34 tons per year.

Applicable Compliance Method:

Compliance shall be determined based on the emission factor calculation for drop operations associated with storage piles in AP-42 section 13.2.4 (11/06).

Initial compliance has been determined using inputs representing current conditions as follows:

For Incoming Feedstock Storage Pile:

$$EF = k(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}]$$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless) = 0.74

U= mean wind speed expressed in miles per hour (MPH) = 8.7

M= material moisture content (%) = 75%

Therefore, EF = 0.0000304 lbs/ton

maximum annual load-in throughput = 2,628,000 tons/year (as submitted in PTIO application)

maximum annual load-out throughput = 2,628,000 tons/year (as submitted in PTIO application)

$$[(1 \text{ load-in})(2,628,000 \text{ tons/year})(0.0000304 \text{ lbs PE/ton}) + (1 \text{ load-out})(2,628,000 \text{ tons/year})(0.0000304 \text{ lbs PE/ton})] / 2,000 \text{ lbs/ton}$$

= 0.08 TPY of uncontrolled PE

The emission factor calculation for wind erosion from storage piles is found in USEPA's Control of Open Fugitive Dust Sources (9/88). Initial compliance has been determined using inputs representing current conditions as follows:

$$EF = (1.7)(s/1.5)((365-p/235))(f/15)$$

Where:

E= emission factor in pounds (lbs)/day/acre)

s= silt content of material (%)= 5.1%

p= number of rain days per year >0.01 in.= 140

f= percentage of time that wind speed exceeds 12 mph (%)= 30%

A= total surface area of storage piles (acres)= 0.1

Therefore, EF= 11.07 lbs/day/acre

$[(11.1 \text{ lbs/day/acre})(365 \text{ days/yr})(0.1 \text{ acres})] / 2,000 \text{ lbs/ton}$

= 0.20 TPY uncontrolled PE

For Digested Feedstock storage pile:

$EF = k(0.0032)[(U/5)^{1.3} / (M/2)^{1.4}]$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless) = 0.74

U= mean wind speed expressed in miles per hour (MPH) = 8.7

M= material moisture content (%) = 80%

Therefore, EF = 0.0000278 lbs/ton

maximum annual load-in throughput = 657,000 tons/year (as submitted in PTIO application)

maximum annual load-out throughput = 657,000 tons/year (as submitted in PTIO application)

$[(1 \text{ load-in})(657,000 \text{ tons/year})(0.0000278 \text{ lbs PE/ton}) + (1 \text{ load-out})(657,000 \text{ tons/year})(0.0000278 \text{ lbs PE/ton})] / 2,000 \text{ lbs/ton}$

= 0.018 TPY of uncontrolled PE

The emission factor calculation for wind erosion from storage piles is found in USEPA's Control of Open Fugitive Dust Sources (9/88). Initial compliance has been determined using inputs representing current conditions as follows:

$EF = (1.7)(s/1.5)((365-p/235))(f/15)$

Where:

E= emission factor in pounds (lbs)/day/acre)

s= silt content of material (%)= 5.1%

p= number of rain days per year >0.01 in.= 140

f= percentage of time that wind speed exceeds 12 mph (%)= 30%

A= total surface area of storage piles (acres)= 0.2

Therefore, EF= 11.07 lbs/day/acre

$[(11.07 \text{ lbs/day/acre})(365 \text{ days/yr})(0.2 \text{ acres})] / 2,000 \text{ lbs/ton} = 0.40 \text{ TPY}$
uncontrolled PE

For Yardwaste storage pile:

$EF = k(0.0032)[(U/5)1.3/(M/2)1.4]$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless) = 0.74

U= mean wind speed expressed in miles per hour (MPH) = 8.7

M= material moisture content (%) = 50%

Therefore, EF = 0.0000537 lbs/ton

maximum annual load-in throughput = 2,628,000 tons/year (as submitted in PTIO application)

maximum annual load-out throughput = 2,628,000 tons/year (as submitted in PTIO application)

$[(1 \text{ load-in})(2,628,000 \text{ tons/year})(0.0000537 \text{ lbs PE/ton}) + (1 \text{ load-out})(2,628,000 \text{ tons/year})(0.0000537 \text{ lbs PE/ton})] / 2,000 \text{ lbs/ton}$

= 0.14 TPY of uncontrolled PE

The emission factor calculation for wind erosion from storage piles is found in USEPA's Control of Open Fugitive Dust Sources (9/88). Initial compliance has been determined using inputs representing current conditions as follows:

$EF = (1.7)(s/1.5)((365-p/235))(f/15)$

Where:

E= emission factor in pounds (lbs)/day/acre)

s= silt content of material (%)= 5.1%

p= number of rain days per year >0.01 in.= 140

f= percentage of time that wind speed exceeds 12 mph (%)= 30%

A= total surface area of storage piles (acres)= 1.5

Therefore, EF= 11.07 lbs/day/acre

$$\frac{[(11.07 \text{ lbs/day/acre})(365 \text{ days/yr})(1.5 \text{ acres})]}{2,000 \text{ lbs/ton}} = 3.03 \text{ TPY uncontrolled PE}$$

For Soil/Mulch storage pile:

$$EF=k(0.0032)\left[\frac{U}{5}\right]1.3\left[\frac{M}{2}\right]1.4$$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless) = 0.74

U= mean wind speed expressed in miles per hour (MPH) = 8.7

M= material moisture content (%) = 50%

Therefore, EF = 0.0000537 lbs/ton

maximum annual load-in throughput = 1,314,000 tons/year (as submitted in PTIO application)

maximum annual load-out throughput = 1,314,000 tons/year (as submitted in PTIO application)

$$\frac{[(1 \text{ load-in})(1,314,000 \text{ tons/year})(0.0000537 \text{ lbs PE/ton}) + (1 \text{ load-out})(1,314,000 \text{ tons/year})(0.0000537 \text{ lbs PE/ton})]}{2,000 \text{ lbs/ton}}$$

= 0.071 TPY of uncontrolled PE

The emission factor calculation for wind erosion from storage piles is found in USEPA's Control of Open Fugitive Dust Sources (9/88). Initial compliance has been determined using inputs representing current conditions as follows:

$$EF = (1.7)\left(\frac{s}{1.5}\right)\left(\frac{365-p}{235}\right)\left(\frac{f}{15}\right)$$

Where:

E= emission factor in pounds (lbs)/day/acre)

s= silt content of material (%)= 5.1%

p= number of rain days per year >0.01 in.= 140

f= percentage of time that wind speed exceeds 12 mph (%)= 30%

A= total surface area of storage piles (acres)= 0.2

Therefore, EF= 20.37 lbs/day/acre

$[(11.07 \text{ lbs/day/acre})(365 \text{ days/yr})(0.2 \text{ acres})] / 2,000 \text{ lbs/ton}$

= 0.40 TPY uncontrolled PE

TOTAL EMISSION SUMMARY

Load-in/out Incoming Feedstock= 0.08 TPY

Load-in/out Digested Feedstock= 0.018 TPY

Load-in /out Yardwaste= 0.14 TPY

Load-in/out Soil/Mulch= 0.071 TPY

Load-in and load-out total= 0.31 TPY

Wind erosion Incoming Feedstock = 0.20 TPY

Wind erosion Digested Feedstock = 0.40 TPY

Wind erosion Yardwaste= 3.03 TPY

Wind erosion Soil/Mulch= 0.40 TPY

Wind erosion total = 4.03 TPY

Total emissions= Load-in/Load-out + Wind erosion=

0.31 TPY + 4.03 TPY = 4.34 TPY uncontrolled particulate emissions

b. Emission Limitation:

There shall be no visible PE except for one minute during any 60-minute observation period.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

c. Emissions Limitation:

Visible fugitive PE shall not exceed 13 minutes during any 60-minute period.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

g) Miscellaneous Requirements

(1) None.