



State of Ohio Environmental Protection Agency

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1/16/2009

Certified Mail

Gregory Benik  
Mahoning Renewable Energy  
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Yes	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR
Yes	CEMS
No	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0250001120  
Permit Number: 02-23003  
Permit Type: Initial Installation  
County: Mahoning

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Youngstown-Vindicator. A copy of the public notice and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc> in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
122 South Front Street  
Columbus, Ohio 43215

and Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 43087

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171.

Sincerely,

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

Cc: U.S. EPA  
Ohio EPA-NEDO; Pennsylvania; West Virginia

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director



**MAHONING COUNTY**

**PUBLIC NOTICE - PUBLIC HEARING  
OHIO ENVIRONMENTAL PROTECTION AGENCY  
ISSUANCE OF REVISED DRAFT PERMIT TO INSTALL  
SUBJECT TO PREVENTION OF SIGNIFICANT DETERIORATION REVIEW  
TO MAHONING RENEWABLE ENERGY**

Public notice is hereby given that on January 16, 2009, the Ohio Environmental Protection Agency (EPA) has issued a revised draft action of Permit to Install (PTI) application number 02-23003 to Mahoning Renewable Energy, Alliance, Ohio. This revised draft permit proposes to allow the installation of 2 refuse-derived fuel stoker boilers with associated control equipment and supporting emissions units at a proposed facility to be located on Middletown Road in Smith Township near Alliance, Ohio.

The revised draft action is based on the draft action issued on December 19, 2008 and will be the document subject to comment at the hearing on Tuesday, February 17, 2009, at McKinley High School, 225 East Indiana Avenue, Sebring, OH 44672 and via written comments until Tuesday, February 24, 2009 as indicated below in this Notice.

**A summary of revisions to the previously issued draft action are as follows:**

**Changes have been made to section B.2 to require an ambient air monitoring network. Changes have also been made to sections C.4.b)(1)a, C.4.c)(4), C.4.d)(6), C.4.d)(17), C.4.f)(1)a and C.4.f)(3) to require an activated carbon injection system to reduce the mercury emission rate to 0.07 tpy for each RDF boiler and an optimization study to determine the optimum operating parameters of the activated carbon injection system to maximize control of mercury emissions.**

The revised draft permit proposed allowable criteria pollutant air emission rates for the new source are listed below, in tons per year.

<u>Pollutant</u>	<u>Tons/yr</u>
PM10	85.31
PM/PM10	85.82
lead	0.60
SO2	163.0
HCl	62.60
dioxins/furans	0.00026
NOx	584.00
CO	523.00
H2SO4	24.40
cadmium	0.08
mercury	0.14
hydrogen fluorides	1.20
ammonia	32.20

This facility is subject to the applicable provisions of the federal Prevention of Significant Deterioration (PSD) regulations (40 CFR 52.21) and the Ohio Administrative Code (OAC) rules 3745-31-10 through 3745-31-20.

The U.S. EPA allows sources to consume no more than the maximum available ambient PSD increment(s) for each PSD pollutant. Proposed new sources also can not cause or significantly contribute to violations of the national ambient air quality standard (NAAQS). The Ohio EPA allows PSD sources to consume not more than one half of the remaining available increment, with some exceptions. After reviewing the air quality impact modeling for Mahoning Renewable Energy, Ohio EPA has found no violations of the National Ambient Air Quality Standards or Prevention of Significant Deterioration. Modeling shows compliance with all applicable air quality standards. Based on this analysis, the project complies with both the federal and state modeling requirements.

A public hearing and information session on the revised draft air permit will be held on Tuesday, February 17, 2009, at McKinley High School, 225 East Indiana Avenue, Sebring, OH 44672. The information session will commence at 6:30 pm and the public hearing will follow immediately to accept comments on the revised draft permit. A presiding officer will be present and may limit oral testimony to ensure that all parties are heard.

All interested persons are entitled to attend or be represented and give written or oral comments on the revised draft permit at the hearing. Written comments on the revised draft permit must be received by the close of business on Tuesday, February 24, 2009. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Tim Fischer, Ohio EPA - NEDO, 2110 E. Aurora Rd., Twinsburg, Ohio, 44087.

Copies of the revised draft permit, permit application and technical support information may be reviewed and/or copies made by either accessing the Ohio EPA web page at the following web address: <http://www.epa.state.oh.us/dapc/> (see featured topics) or by first calling to make an appointment at the Ohio EPA - NEDO, located at the above address, telephone number (330) 963-1200.



**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT  
UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS  
FOR MAHONING RENEWABLE ENERGY  
LOCATED IN MAHONING COUNTY, OHIO  
PTI 02-23003  
January 15, 2009**

Ohio Environmental Protection Agency  
Division of Air Pollution Control  
Lazarus Government Center  
50 West Town St., Suite 700  
Columbus, Ohio 43215

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review requirements. The federal PSD rules govern emission increases in attainment areas for major stationary sources, which are facilities with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major stationary source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous net increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within this five- or ten-year period are considered to be contemporaneous. In addition, Ohio has incorporated the PSD and NSR requirements by rule under OAC 3745-31, and currently has a program that is fully approved by USEPA.

Both PSD and nonattainment rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major stationary source. The principal requirements of the PSD regulations are:

- 1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major stationary source.
- 2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

- 1) Lowest Achievable Emissions Rate (LAER) - New major stationary sources must install controls that represent the lowest emission levels (highest control efficiency) that has been achieved in practice.
- 2) The emissions from the new major stationary source must be offset by a reduction of existing emissions of the same pollutant by at least the same amount, and a demonstration must be made that the resulting air quality shows a net air quality benefit. This is more completely

described in the Emission Offset Interpretative Ruling as found in Appendix S of 40 CFR Part 51.

- 3) The facility must certify that all major stationary sources owned or operated in the state by the same entity are either in compliance with the existing State Implementation Plan (SIP) or are on an approved schedule resulting in full compliance with the SIP.

For rural ozone nonattainment areas, the requirements are:

- 1) LAER - New major stationary sources must install controls that represent the lowest emissions levels (highest control efficiency) that has been achieved in practice.
- 2) The facility must certify that all major stationary sources owned or operated in the state by the same entity are either in compliance with the existing SIP or are on an approved schedule resulting in full compliance with the SIP.

Finally, New Source Performance Standards (NSPS), SIP emission standards and public participation requirements must be followed in all cases.

### Site Description

The Mahoning Renewable Energy facility will be located near Alliance, Ohio on Middletown Road in Smith Township, Mahoning County.

This area is classified as attainment for all criteria pollutants, including total suspended particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic compounds (VOC) and lead (Pb).

### Facility Description

Mahoning Renewable Energy proposes to install an advanced renewable energy facility capable of producing 66 MW of electrical power through the combustion of municipal solid waste (MSW) and construction and demolition debris (C&D).

MSW and C&D will be received primarily by railcar with the MSW in bale form and the C&D in bulk. The waste receiving area will also be designed to receive waste by truck under special circumstances. Waste will be unloaded on the tipping floor within the waste receiving building and moved to fuel processing lines with front end loaders. The waste will be processed by removing recyclable material and any material that is noncombustible. The remaining waste will be ground into refuse-derived fuel (RDF) and either moved to a storage building through enclosed conveyors for blending or moved directly to one of two RDF stoker boilers.

The stoker boilers have been specifically designed to accommodate the special characteristics of RDF to provide a high combustion efficiency. The RDF stoker boilers were designed to provide the proper temperature, fuel/air mixing, fuel distribution and retention time needed for high combustion efficiency. The steam produced by the two RDF stoker boilers will be delivered to a steam turbine generator that has the capability to produce 66 MW of electrical power. Some of the power generated will be used to operate the facility and the remainder will be sent to the grid.

Emissions Unit List:

EU#	Description
B001	535 mmBtu/hr refuse-derived fuel boiler #1
B002	535 mmBtu/hr refuse-derived fuel boiler #2
F001	roadways and parking areas
F002	refuse handling, processing and storage
P901	ash handling
P902	MSW to RDF processing equipment, grinder #1
P903	MSW to RDF processing equipment, grinder #2
P904	C & D to RDF processing equipment

New Source Review (NSR)/PSD Applicability

The proposed Mahoning Renewable Energy facility meets the definition for a major stationary source because the facility has the potential to emit greater than 250 tons per year of sulfur dioxide, nitrogen oxides and carbon monoxide. The facility will be located in an area designated as attainment for particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic compounds, sulfuric acid mist and lead.

As a major stationary source, this facility must obtain a Prevention of Significant Deterioration permit to install (PSD PTI) and must comply with the BACT requirements as specified in OAC rules 3745-31-11 through 20 for each emissions unit that emits any regulated air pollutant(s) above the significant levels specified in OAC rule 3745-31-01(MMMMM).

TABLE 1  
PRELIMINARY POLLUTANT EMISSION RATES

Pollutant	Allowable Emission Rate (in tpy)	Emission Rate Increase (in tpy)	Significant PSD Threshold (in tpy)
Carbon Monoxide	523.00	523.00	100
Nitrogen Oxides	584.00	584.00	40
Sulfur Dioxide	163	163	40
Particulate Matter	85.82	85.82	25
PM <sub>10</sub> (surrogate for PM <sub>2.5</sub> )	85.31	85.31	15
Lead	0.60	0.60	0.6
Sulfuric Acid Mist	24.40	24.40	7
MWC Organics	2.59 x 10 <sup>-4</sup>	2.59 x 10 <sup>-4</sup>	3.53 x 10 <sup>-6</sup>
MWC Metals	70	70	15

MWC Acid Gases	265	265	40
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#### Applicability of 40 CFR Part 60 (NSPS)

The requirements of 40 CFR Part 60, Subpart Eb are applicable to the following emissions units:

B001            535 mmBtu/hr refuse-derived fuel boiler #1;  
 B002            535 mmBtu/hr refuse-derived fuel boiler #2; and  
 P901            ash handling.

#### Applicability of 40 CFR Part 63 (MACT)

There are no MACT standards applicable to this facility.

#### Control Technology Review (BACT)

The Mahoning Renewable Energy facility has been classified as a major stationary source that emits PM, PM<sub>2.5</sub> (surrogate PM<sub>10</sub>), SO<sub>2</sub>, NO<sub>x</sub>, CO, Pb, MWC acid gases, MWC metals, MWC organics and H<sub>2</sub>SO<sub>4</sub> above the significant levels specified in OAC rule 3745-31-01(KKKKK)(1). The facility must comply with the BACT requirements for all the pollutants listed above.

The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR Part 52.21.(j) and also in OAC rules 3745-31-15(C) and 3745-31-01(S). The BACT requirement is defined as:

“... an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the director, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such major stationary source or major modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63. If the director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be approved by the director instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results.”

The BACT process was further formalized in a memorandum by USEPA on December 1, 1987 and in the draft New Source Review Workshop Manual (EPA 1990b) issued on March 15, 1990, by introducing a “top-down” concept for BACT analysis. The top-down process requires that all available control technologies be ranked in descending order of control effectiveness. The BACT process first examines the most stringent - or “top”- alternative. That alternative is established as BACT unless it is demonstrated that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not applicable. If the most stringent

technology is eliminated, then the next most stringent alternative is considered, and this process is continued until an acceptable BACT is selected.

The objective of the BACT analysis is to conduct pollutant-specific control technology evaluation per USEPA requirements. The BACT evaluation steps consist of:

Step 1: identify all control technologies;

Step 2: eliminate technically infeasible options;

Step 3: rank remaining control technologies by control effectiveness;

Step 4: evaluate most effective controls and document results; and

Step 5: select the most effective control based on energy, environmental and economic impacts (generally the feasible technology that is also considered to be cost effective)

**BACT Determinations:**

BACT Review:

Pollutant	Control Technology	Technically Feasible
PM /metals	Fabric Filter Baghouse Electrostatic Precipitator	Yes Yes
NO <sub>x</sub>	Low-NO <sub>x</sub> burners Selective Catalytic Reduction Selective Non-Catalytic Reduction Regenerative Selective Catalytic Reduction	Yes No Yes Yes
SO <sub>2</sub> /H <sub>2</sub> SO <sub>4</sub> / HCl	Dry Sorbent Injection Dry Scrubbing Wet Scrubbing	Yes Yes Yes
VOC/CO	Thermal Oxidation Catalytic Oxidation Good combustion design and operation	No Yes Yes
Dioxins/Furans	Carbon Injection Good Combustion Practices	Yes Yes

Pollutant	Control Technology	Control Efficiency
PM /metals	Fabric Filter Baghouse Electrostatic Precipitator	99% or greater 95% or greater

NO <sub>x</sub>	Low-NO <sub>x</sub> burners (start-up) Selective Catalytic Reduction Selective Non-Catalytic Reduction Regenerative Selective Catalytic Reduction	30% to 50% 75% to >90% approximately 60% 80% or greater
SO <sub>2</sub> /H <sub>2</sub> SO <sub>4</sub> /HCl/SO <sub>3</sub>	Dry Sorbent Injection Dry Scrubbing Wet Scrubbing	75% to 85% up to 98% 90% or greater
VOC/CO	Thermal Oxidation Catalytic Oxidation Good combustion design and operation	Nearly 100% 75% - 85% Will minimize emissions
Dioxins/Furans	Carbon Injection Good Combustion Practices	up to 99% Will minimize emissions

#### Evaluation and BACT Selection:

MRE has selected the Turbosorp air quality control system for the project. The Turbosorp system is a design that maximizes the benefits of individual components by integrating them into a common system for treatment or removal of acid gases, Hg, PM/metals, and NO<sub>x</sub>. This system coupled with good combustion design and operating practice will result in a high functioning system that minimizes emissions.

For PM: A fabric filtration system has been selected as BACT for particulate matter and MRE metals control. A fabric filter will provide the highest level of control over all ranges of particle sizes. The exhaust gases are ideal for the use of fabric filters; they will be dry and not moist or sticky and they are not expected to be corrosive or explosive. The fabric filtration system controls over 97% of the total PM<sub>10</sub> emission and Turbosorp will control ~99% of the sulfur trioxide and acid gas emissions.

For NO<sub>x</sub>: The RSCR was selected as BACT, due to its advanced, high-efficiency (greater than 80%) NO<sub>x</sub> reduction system. The RSCR system is designed for tail-end/low temperature applications where the flue gas is relatively cool and clean of particulates and acid gases. Low NO<sub>x</sub> burners will be employed as secondary control.

For SO<sub>2</sub>/H<sub>2</sub>SO<sub>4</sub>: Turbosorp<sup>®</sup> circulating fluidized bed dry scrubbing system in combination with a baghouse will be used to reduce sulfur dioxide (SO<sub>2</sub>) and acid gas emissions. In addition to a greater than 97% SO<sub>2</sub> removal efficiency, the Turbosorp removes sulfur trioxide (SO<sub>3</sub>), hydrochloric acid (HCl), hydrofluoric acid (Hf) and mercury (Hg). The principal of Turbosorp dry scrubbing is to bring together high levels of solid recirculation, finely atomized water, hydrated lime and flue gas within a circular fluid bed reactor. Lime and finely atomized water are injected independently into the Turboreactor to lower flue gas temperature and enhance absorption. The fluid bed material is comprised of solids, including calcium hydroxide, fly ash from the combustion process, and particulate matter from the particulate control devices. A fabric filter baghouse removes solid particulates from the flue gas upon exiting the Turboreactor and provides an additional surface for unreacted sorbent to react with acid constituents of the exhaust gas stream.

For VOC/CO: Good combustion practices are considered BACT and are the primary means used to minimize the emissions of carbon monoxides. Most add-on control technologies, such as thermal or

catalytic oxidizers, are not economically feasible; the fuel costs would be prohibitive and the combustion of the additional fuel would increase the overall nitrogen oxide emissions.

For Dioxins/Furans: MRE will achieve BACT through the combination of an activated carbon injection system and good combustion practices as described for CO control. Good combustion practices will effectively remove the majority of organic compounds including dioxin/furans present in the flue gas in the vapor form. Dioxins/furans which adhere to particulates in the post combustion process will be controlled by an activated carbon injection system and fabric filter baghouse. The activated carbon will bind to the dioxin/furan particles, which will increase the overall particle size and the capture efficiency of the fabric filter baghouse.

### **Modeling Summary:**

Woodard and Curran, Inc., has submitted air dispersion modeling for Nitrogen Oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>), Particulate Matter (PM) and Carbon Monoxide (CO) and 20 air toxics on behalf of Mahoning Renewable Energy (MRE). Mahoning Renewable Energy (MRE) is proposing to build and operate a biomass to energy facility. The facility is expected to produce and export to the local electrical transmission system approximately 60 MW of electricity. Preliminary modeling will determine if a NAAQS and PSD evaluation is necessary for the respective pollutants. Mahoning County is currently an attainment county for all pollutants.

MRE used the AERMOD air dispersion model to show compliance for NO<sub>x</sub>, SO<sub>2</sub>, PM, and CO in accordance to the Ohio Modeling Standards and Significant Emission Rates.

Pollutant	Averaging Period	MRE Modeled Impact in ug/m3	Monitoring De Minimis in ug/m3
PM10	24-hour	0.93	10
CO	8-hour	12.0	575
SO2	24-hour	2.2	13

### **Modeling Information**

MRE is located in Mahoning County, Ohio. The approximate UTM coordinates for MRE are 494,843 E, 4,533,768 N, in zone 17.

When modeling, all concentrations were computed in micrograms per cubic meter (µg/m<sup>3</sup>). No deposition or depletion was modeled for this case. The AERMOD regulatory default option was selected in the control parameter. Simple and complex terrain were considered in the modeling. Less than 50 percent of the land types consisted of heavy industrial, light-moderate industrial, commercial, single family compact residential, or multi-family compact residential, therefore, the surrounding area is considered rural, and modeled as so.

Five receptor grids were placed around this facility. Receptors extend out to a distance to where modeled concentrations fall below the significant impact level for all pollutants. Receptors were placed in 25 meter intervals surrounding the facility and extending out one kilometer, 100 meter intervals from one to four kilometers, 500 meter intervals from four to 10 kilometers and one kilometer intervals from 10 to 20 kilometers in each direction. Receptor elevations were calculated using USGS 7.5 Minute Digital Elevation Model (DEM). These elevations were processed using the

US EPA approved AERMOD preprocessor AERMAP. The linear interpolation option was used in AERMOD.

Five years of meteorological data must be used in accordance with the Engineering Guidelines: #69 Guideline on Air Quality Models. Surface observations and upper air observations from Pittsburgh (National Weather Service Station Number 84923) from 2001 to 2005 were used in this model. The National Weather Service data was determined to be representative of the geographical surroundings of MRE.

## RESULTS

### NAAQS

NAAQS modeling outputs indicate that no violations of the NO<sub>x</sub>, SO<sub>2</sub>, CO and PM<sub>10</sub> standards will occur with the addition of MRE.

Pollutant	Averaging Period	MRE Modeled Concentration in ug/m3	MRE and Ambient Background Concentrations in ug/m3	NAAQS Concentration in ug/m3
PM10	24-hour	0.67	46.7	150
	Annual	0.093	20.8	50
CO	8-hour	9.6	5,148.6	10,000
	1-hour	15.0	9,836	40,000
SO2	3-hour	4.0	148.1	1,300
	24-hour	1.9	51.7	365
	Annual	0.22	12.5	80
NOx	Annual	0.93	27.6	100

### PSD Increment Analysis

PSD modeling outputs indicate that no violations of the NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub> standards will occur with the addition of MRE.

Pollutant	Averaging Period	Modeled Impact in ug/m3	PSD Increments in ug/m3
PM10	24-hour	0.93	30
	Annual	0.09	17
NOx	Annual	0.93	25
SO2	3-hour	4.4	512
	24-hour	2.2	91
	Annual	0.22	20

## **Air Toxics**

Modeling for 20 air toxics was required by Ohio EPA because emissions exceeded more than one ton per year. Woodard and Curran provided an additional Risk Assessment Analysis to supplement the permit application. All air toxics modeled did not exceed their respective MAGLC. The Ohio EPA is in agreement with the maximum concentrations found in Tables A-5 of the Human Health Risk Assessment document submitted by Woodard and Curran.

## **Secondary Impact Analysis**

Mahoning Renewable Energy has demonstrated the predicted pollutant concentrations throughout the study area are below the secondary NAAQS thresholds. The secondary NAAQS are designed to limit the amount of pollutants in the ambient air to levels below those which could have an adverse impact on human welfare, soils or vegetation. The modeling analyses demonstrate that no significant impacts on human welfare, soils or vegetation will occur from the proposed modification.

Mahoning Renewable Energy is located approximately 242 kilometers from the closest Class I Area which is the Otter Creek Wilderness Area located in West Virginia.

Based on communication with the Federal Land Managers (FLMs) and the Federal Land Managers Air Quality Related Values Workgroup (FLAG) and the following data, 584.0 tons per year of NO<sub>x</sub>, 85.31 tons per year of PM<sub>10</sub>, 163.0 tons per year of SO<sub>2</sub>, which added together result in 832.31 tons per year of total emission increase over previous levels pursuant to OAC 3745-31-01 and the distance from this facility to the Otter Creek Wilderness Area located in West Virginia would not trigger the need for a Class I visibility analysis.

In addition, the primary or secondary pollutants associated with this project are not anticipated to affect local or Class I visibility.

Modeling shows compliance with all applicable air quality standards.

## **Conclusions**

Based upon the review of the permit to install application and the supporting documentation provided by the applicant, the Ohio EPA staff has determined the installation will comply with all applicable State and Federal environmental regulations and that the requirements for attainment area review are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to Mahoning Renewable Energy for the installation of an advanced renewable energy facility.





State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**DRAFT**

**Air Pollution Permit-to-Install**  
for  
Mahoning Renewable Energy

Facility ID: 0250001120  
Permit Number: 02-23003  
Permit Type: Initial Installation  
Issued: 1/16/2009  
Effective: To be entered upon final issuance





State of Ohio Environmental Protection Agency  
 Division of Air Pollution Control

**Air Pollution Permit-to-Install**  
 for  
 Mahoning Renewable Energy

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

# Authorization

Facility ID: 0250001120

Facility Description: Municipal and CDD waste to energy facility

Application Number(s): A0002870, A0035558

Permit Number: 02-23003

Permit Description: Waste combustion, ash disposal, material handling, roadways and parking areas, storage tank.

Permit Type: Initial Installation

Permit Fee: \$13,450.00 *DO NOT send payment at this time, subject to change before final issuance*

Issue Date: 1/16/2009

Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Mahoning Renewable Energy  
12003 Oyster Rd.  
Smith Twp., OH 44601

of a Permit-to-Install 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, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 43087  
(330)425-9171

The above named entity is hereby granted a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski  
Director



## Authorization (continued)

Permit Number: 02-23003

Permit Description: Waste combustion, ash disposal, material handling, roadways and parking areas, storage tank.

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

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	RFD Boiler 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B002</b>
Company Equipment ID:	RDF Boiler 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	Roadways and Parking
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F002</b>
Company Equipment ID:	Refuse Handling
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	Ash Handling
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P902</b>
Company Equipment ID:	MSW Grinder 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P903</b>
Company Equipment ID:	MSW Grinder 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P904</b>
Company Equipment ID:	C&D Grinder
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

## **A. Standard Terms and Conditions**



**1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A. 2.a), Severability Clause
  - (2) Standard Term and Condition A. 3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A. 6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A. 9., Reporting Requirements
  - (5) Standard Term and Condition A. 10., Applicability
  - (6) Standard Term and Condition A. 11.b) through A. 11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A. 14., Public Disclosure
  - (8) Standard Term and Condition A. 15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A. 16., Fees
  - (10) Standard Term and Condition A. 17., Permit Transfers

**2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

**3. General Requirements**

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.



- 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 federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

**4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.



(2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northeast District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Northeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## 5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northeast District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## 6. Compliance Requirements

a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:



- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Northeast District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

**7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

**8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northeast District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northeast District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted



(i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed through completion of the annual PER covering the last period of operation of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the PER covering the last period the emissions unit operated.



No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a PER, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

## **13. Construction Compliance Certification**

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

## **14. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

## **15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

## **16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Northeast District Office must be notified in writing of any transfer of this permit.

**18. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

**19. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



State of Ohio Environmental Protection Agency  
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**Draft Permit-to-Install**

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## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) B.2
2. Ambient Air Monitoring for Particulates, Metals, and Dioxins/Furans
  - a) The permittee shall establish and operate an ambient air monitoring network for this facility that will monitor and record emissions of the following pollutants: particulates, metals, and dioxins/furans. The number and location of monitoring sites shall be based on accepted modeling practice and shall adequately monitor areas of maximum concentrations of the facility emissions and the background concentrations. At least 24 months prior to facility construction, the permittee shall submit a plan describing the proposed network for approval by the Director of Ohio EPA. This plan shall provide documentation detailing the criteria and reasoning for the number and location of monitoring sites, along with the modeling information, the frequency of monitoring for each pollutant and details for obtaining appropriate onsite meteorological data.
  - b) Following approval of the ambient air monitoring network plan, the permittee shall begin installation of the approved monitoring sites to enable full operation to begin at least 12 months prior to facility operation.
  - c) All samplers shall be sited and located in accordance with the requirements of the 40 CFR Part 58 and any subsequent amendments. The monitoring sites shall be equipped with particulate, metals, and dioxins/furans monitors meeting the reference methods specified in 40 CFR Parts 50 and 53 with the additional requirement that each instrument shall be equipped with a continuous flow meter (recording transducer), unless the instrument uses volumetric flow control.

Length of Operation

- d) The permittee shall operate the ambient air monitoring network for at least 12 months prior to any operation of the facility. Operation of the ambient air monitoring network shall continue for at least 24 months after operation of the facility commences. The Director may extend the term of this monitoring requirement. In determining the need for such an extension, the Director shall consider actual facility emissions, the concentrations contributed by the facility that are measured by the monitors, the trends in air quality concentrations, and the value of the air quality data in fulfilling the goals and requirements of the federal Clean Air Act and Chapter 3704 of the Ohio Revised Code. An extension of the term of this monitoring requirement would not be considered a minor or significant modification that would be subject to the Title V permit modification requirements in paragraphs (C)(1) and (C)(3) of OAC rule 3745-77-08.

Operating Procedures

- e) The ambient air sampling network shall be operated in accordance with the following requirements:
  - (1) The operating procedures shall follow those identified in:
    - a. 40 CFR Parts 50 and 58; and



- b. the Quality Assurance Handbooks for Air Pollution Measurement Systems, including:
    - i. A Field Guide to Environmental Quality Assurance, Volume I, (EPA/600/R-94/038a); and
    - ii. Ambient Air Specific Methods, Volume II, Part II, Section 2.11 (EPA/600/R-94/38b).
- (2) The flow rate of each instrument shall be calibrated using the guidance referenced above from the *Ambient Air Specific Methods*, Volume II, Part II, Section 2.11 and as follows:
- a. at least quarterly;
  - b. after any repair that might affect sampler calibration (i.e., following replacement of the motor or brushes);
  - c. if the results of a field flow-check or independent flow audit exceeds  $\nabla$  10% difference from the samplers indicated flow rate; and
  - d. whenever a field flow-check or independent flow audit indicates the sampler is out of the acceptable flow rate range, i.e., for samplers with design flow rate of 1.13 m<sup>3</sup>/min, the acceptable range is  $\nabla$  10% from 1.13 m<sup>3</sup>/min or 1.02 to 1.24 m<sup>3</sup>/min.
- (3) An operator's log book shall be maintained for each site location with a format and content as specified in guidance provided by the Ohio EPA.

Sampling Methods

- f) Particulates (TSP, PM<sub>10</sub>, PM<sub>2.5</sub>):

For TSP - 40 CFR Part 50, Appendix B

For PM<sub>10</sub> - 40 CFR Part 50, Appendix J

For PM<sub>2.5</sub> - 40 CFR Part 50, Appendix L

(or an alternative method(s) approved by the Director of Ohio EPA)

- g) Metals:

Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air (EPA/625/R-96/010a)

Compendium Methods IO-3.1 through 3.7 or an alternative method(s) approved by the Director of Ohio EPA.

In addition, monitoring for lead will also require the procedures specified in 40 CFR Part 50, Appendix G.



h) Mercury:

Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air (EPA/625/R-96/010a)

Compendium Method IO-5 or an alternative method(s) approved by the Director of Ohio EPA.

i) Dioxins/Furans:

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air – Second Edition (EPA/625/R-96/010b)

Compendium Method TO-9A or an alternative method(s) approved by the Director of Ohio EPA.

### Quality Assurance

- j) The permittee shall meet the quality assurance requirements specified in 40 CFR Part 58, Appendix A. Equipment siting and performance specifications must be in accordance with *Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)*, (EPA-450/4-87-007).

### Site Access

- k) The Air Monitoring Section of the Ohio EPA, Division of Air Pollution Control, Central Office, and the Ohio EPA Northeast District Office shall be provided with access to each site location. The site operator and/or supervisor shall accompany the Air Monitoring Section of the Ohio EPA, Division of Air Pollution Control, Central Office, and the Ohio EPA Northeast District Office personnel on any site inspection or audit, and respond to inquiries regarding instrument operations and maintenance.
- l) Appropriate corrective actions must be taken by the permittee following the identification of any problem by the independent auditor (auditor hired by the permittee to maintain the permittee's ambient air monitoring network), or the Air Monitoring Section of the Ohio EPA, Division of Air Pollution Control, Central Office, or the Ohio EPA Northeast District Office.

### Reporting Requirements for the Ambient Air Monitoring Network Audit and Quality Assurance Results

- m) Independent audit (accuracy) results and precision results must be submitted quarterly to the Air Monitoring Section of the Ohio EPA, Division of Air Pollution Control, Central Office, and the Ohio EPA Northeast District Office, within 45 days after the end of each calendar quarter, beginning with the first quarter after commencement of monitor operation.

### Reporting Requirements for the Ambient Air Monitoring Data

- n) All air quality measurement data shall be reported to the Air Monitoring Section of the Ohio EPA, Division of Air Pollution Control, Central Office, within 18 days after the end of each calendar quarter, beginning with the first quarter after commencement of monitor operation. All such data shall be submitted electronically or as a hardcopy, in Air Quality System (AQS) format, and in a form suitable for direct entry by Ohio EPA into the AQS database.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

## **C. Emissions Unit Terms and Conditions**



**1. F001, Roadways and Parking**

**Operations, Property and/or Equipment Description:**

Facility Roadways and Parking Areas

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 rules 3745-31-10 through 20 40 CFR Part 52, Section 52.21	Fugitive particulate matter of 10 microns or less (PM10) shall not exceed 0.10 ton/year.  Fugitive particulate matter (PM) shall not exceed 0.51 ton/year  The permittee shall employ best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)a through b)(2)e.]
b.	OAC rule 3745-31-05(A)(3)	See b)(2)f.
c.	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
d.	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to treat the paved roadways and parking areas by sweeping and/or watering at sufficient treatment frequencies



to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- b. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for paved roadways and parking areas that are 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. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
- c. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- d. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- e. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available control technology requirements of OAC rules 3745-31-10 through 20.
- f. Permit-to-install (PTI) 02-23003 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

<u>paved roadways and parking areas</u>	<u>minimum inspection frequency</u>
all roads and parking areas	daily

- (2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area 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. 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.

- (3) 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 the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in d)(3)d shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit deviation reports that identify any of the following occurrences:
- a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
- (2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

0.10 ton/year of fugitive PM10

0.51 ton/year of fugitive PM

Applicable Compliance Method:

Compliance with fugitive PM and PM10 limitations shall be determined by using the emission factor equations in Section 13.2.1, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 12/03) for paved roadways. These emission limits are based on a maximum of 13,980 vehicle



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

miles traveled per year, and a 80 percent (%) control efficiency for PM and PM10.

g) Miscellaneous Requirements

- (1) None.



**2. F002, Refuse Handling**

**Operations, Property and/or Equipment Description:**

Material (Refuse) Handling System comprised of the Rail and Truck Tipping Floor and RDF Processing Areas, the RDF Storage Building and the Enclosed Conveyance System

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(2)b and d)(2)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 rules 3745-31-10 through 20 40 CFR Part 52, Section 52.21	See b)(2)a and b)(2)b.
b.	OAC rule 3745-31-05(A)(3)	See b)(2)a.
c.	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
d.	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.

(2) Additional Terms and Conditions

a. Permit-to-install (PTI) 02-23003 takes into account the following restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

i. ensure that all material handling areas remain enclosed to the extent possible using good engineering design; and

ii. ensure that the drop height of each front-end loader or railcar tipper is minimized to minimize emissions.

b. In order to prevent nuisance odors pursuant to OAC rule 3745-15-07, the RDF Storage Building, the RDF Processing Area, and the Rail and Truck Tipping



Floor shall be maintained under negative pressure at all times. The exhausted air shall either be vented to an odor control scrubber or into the boilers as makeup air at all times.

- c. Emissions from this unit are assumed to be negligible provided the control measures required by this permit are implemented.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving each transfer point of the enclosed conveyor system. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall perform weekly inspections of the RDF Storage Building, the RDF Processing Area, and the Rail and Truck Tipping Floor to ensure that the following conditions are being maintained when the emissions unit is in operation:

- a. all access doors that are capable of being closed are closed; and
- b. the direction of air at each natural draft opening is inward, as shown by streamers, smoke tubes, tracer gases, and/or other air flow monitoring devices.

Records shall be maintained of the results of each weekly inspection and shall include any corrective actions taken by the permittee.



e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving each transfer point of the enclosed conveyor system and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Director (Ohio EPA, Northeast District Office) by January 31 and July 31 of each year and shall cover the previous six-month period.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the air flow indicating strips or other flow indicating devices, at any natural draft openings, showed no air flow or air flow in a direction leaving the building.

f) Testing Requirements

- (1) None.

g) Miscellaneous Requirements

- (1) None.



**3. P901, Ash Handling**

**Operations, Property and/or Equipment Description:**

Fly and Bottom Ash Handling System

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(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. 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 rules 3745-31-10 through 20 40 CFR Part 52, Section 52.21	Particulate matter (PM)/PM less than 10 microns (PM10) from the fly ash silo fabric filter shall not exceed 0.005 gr/dscf, 0.26 lb/hr and 1.14 TPY. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)	See b)(2)d.
c.	40 CFR Part 60, Subpart Eb (60.55b)	There shall be no visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of five (5) percent of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22 observations as specified in §60.58b(k), except as provided below:  This emission limit does not cover visible emissions discharged inside buildings or enclosures of ash conveying systems; however, it does cover visible emissions discharged to the atmosphere from buildings or enclosures of ash conveying systems.  These requirements do not apply during maintenance and repair of ash conveying systems.
d.	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
f.	OAC rule 3745-17-11(B)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
g.	OAC rule 3745-17-07(A)	Visible particulate emissions from the fly ash silo fabric filter exhaust shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control devices and techniques are required to meet the emission limitations specified under OAC rules 3745-31-10 through 20 above:

- i. use of a pug mill for wetting the fly ash prior to loading it into a disposal container; and
- ii. totally enclosed fly ash storage silo equipped with a fabric filter capable of achieving a stack outlet PM loading of 0.005 gr/dscf of exhaust gases or less.

The above BACT determination notwithstanding, should any visible emissions be observed, the permittee shall implement additional measures as needed to comply with the requirements in this permit.

- b. The emissions from the fly ash silo shall be vented to the fabric filter system at all times the emissions unit is in operation.
- c. No fugitive PM limit has been provided as fugitive PM emissions from this emissions unit are negligible.
- d. Permit-to-install (PTI) 02-23003 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

(1) All fly ash shall be processed through the pug mill prior to being loaded in a disposal container. Water shall be added to the pug mill in sufficient quantities to prevent dust emissions while unloading the fly ash.



- (2) A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound should emissions above the percent saturation, determined during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the fabric filter serving the fly ash silo and for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s). The acceptable pressure drop shall be based upon the manufacturer=s specifications until such time as any required emission testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever the monitored value for the pressure drop deviates from the range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;



- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable range for the pressure drop across the baghouse shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

This range of the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northeast District Office. The permittee may request revisions to the permitted range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (3) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the fly ash silo fabric filter serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows,



doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Director (Ohio EPA, Northeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the baghouse during the operation of the emissions unit(s):
  - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
  - b. an identification of each incident of deviation described in Aa@ (above) where a prompt investigation was not conducted;
  - c. an identification of each incident of deviation described in Aa@ where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - d. an identification of each incident of deviation described in Aa@ where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
  
0.005 gr/dscf, 0.26 lb/hr and 1.14 TPY of PM/PM10 from the fly ash silo fabric filter  
  
Applicable Compliance Method:  
  
Compliance with the emission limitations above shall be determined using the manufacturer's rating of the fabric filter system (0.005 gr/dscf) and a flow rate of 6,000 CFM. The annual emission rate was determined by multiplying the hourly emission rate by 8,760 hours and dividing by 2,000 lbs/ton. If required, stack testing shall be performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A.



b. Emission Limitation:

There shall be no visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) in excess of five (5) percent of the observation period.

Applicable Compliance Method:

Compliance with the visible emission limitation above shall be determined using Method 22 of 40 CFR Part 60, Appendix A.

c. Emission Limitation:

Visible emissions from the fly ash silo fabric filter exhaust shall not exceed 20 percent (%) opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance with the visible particulate emission limitation above shall be determined in accordance with the methods and procedures specified in Method 9 of 40 CFR Part 60, Appendix A.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but no later than 180 days after initial start-up of the facility, and annually thereafter in accordance with the following:

The EPA Reference Method 22 shall be used for determining compliance with the fugitive ash emission limit under §60.55b (see b)(1)c above). The minimum observation time shall be a series of three 1-hour observations. The observation period shall include times when the facility is transferring ash from the municipal waste combustor unit to the area where ash is stored or loaded into containers or trucks.

The average duration of visible emissions per hour shall be calculated from the three 1-hour observations. The average shall be used to determine compliance with §60.55b.

Following the date that the initial performance test for fugitive ash emissions is completed, the permittee shall conduct a performance test for fugitive ash emissions on an annual basis (no more than 12 calendar months following the previous performance test).

b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

c. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods



and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).

- d. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- e. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 60 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

g) Miscellaneous Requirements

- (1) None.



**4. Emissions Unit Group – RDF Boilers: B001 and B002,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
B001	535 (Nominal) MMBtu/hr Boiler #1, fueled by Refuse-Derived Fuel (RDF), controlled by Turbosorp® #1, Baghouse #1, and RSCR™ #1, and vented to Stack #1
B002	535 (Nominal) MMBtu/hr Boiler #2, fueled by Refuse-Derived Fuel (RDF), controlled by Turbosorp® #2, Baghouse #2, and RSCR™ #2, and vented to Stack #1
All terms and conditions apply to each of B001 and B002, individually.	

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(9) through d)(12) and e)(8)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	<p>Emissions from this emissions unit shall not exceed any of the following:</p> <p>0.5 ppm of hydrogen fluorides (HF) 15.0 ppm of ammonia</p> <p>Annual emissions from this emissions unit shall not exceed any of the following:</p> <p>35.0 tons/year of particulate matter (PM)/particulate matter less than 10 microns in diameter (PM10) 0.30 ton/year of lead 81.5 tons/year of sulfur dioxide (SO<sub>2</sub>) 31.3 tons/year of hydrogen chloride (HCl) 0.00013 ton/year of dioxins/furans 292.0 tons/year of nitrogen oxides (NO<sub>x</sub>) 261.5 tons/year of carbon monoxide (CO) 12.2 tons/year of sulfuric acid 0.040 ton/year of cadmium 0.07 ton/year of mercury 0.60 ton/year of hydrogen fluorides 16.1 tons/year of ammonia</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements established by this rule also include the requirements specified in 40 CFR Part 60, Subpart Eb.
b.	OAC rule 3745-31-10 through 20 40 CFR Part 52, Section 52.21	<p>PM/PM10 shall not exceed 20 milligrams per dry standard cubic meter, corrected to 7 percent oxygen (<i>this limit is identical to Subpart Eb below</i>).</p> <p>Lead emissions shall not exceed 140 micrograms per dry standard cubic meter, corrected to 7 percent oxygen (<i>this limit is identical to Subpart Eb below</i>).</p> <p>SO2 emissions shall not exceed 24 parts per million by volume or 20 percent of the potential SO2 emission concentration (80-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. This shall be based on a 24 hour averaging time as specified in §60.58b(e) (<i>this limit is more stringent than Subpart Eb below</i>).</p> <p>HCl emissions shall not exceed 25 parts per million by volume or 5 percent of the potential HCl emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent (<i>this limit is identical to Subpart Eb below</i>).</p> <p>Dioxin/furan total mass emissions shall not exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen (<i>this limit is identical to Subpart Eb below</i>).</p> <p>NOx emissions shall not exceed 75 parts per million by volume, corrected to 7 percent oxygen (dry basis). This shall be based on a 24 hour averaging time as specified in §60.58b(h) (<i>this limit is more stringent than Subpart Eb below</i>).</p> <p>CO emissions shall not exceed 150 parts per million by volume, corrected to 7 percent oxygen (dry basis). This shall be based on a 24 hour averaging time as</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>specified in §60.53b(a) (<i>this limit is identical to Subpart Eb below</i>).</p> <p>Sulfuric acid emissions shall not exceed 2.0 parts per million by volume corrected to 7 percent oxygen (dry basis).</p> <p>See b)(2)a.</p>
c.	40 CFR Part 60, Subpart Eb (60.52b)	<p>PM shall not exceed 20 milligrams per dry standard cubic meter, corrected to 7 percent oxygen.</p> <p>Visible particulate emissions shall not exceed 10 percent (%) opacity, as a 6-minute average.</p> <p>Cadmium emissions shall not exceed 10 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.</p> <p>Lead emissions shall not exceed 140 micrograms per dry standard cubic meter, corrected to 7 percent oxygen.</p> <p>Mercury emissions shall not exceed 50 micrograms per dry standard cubic meter, or 15 percent of the potential mercury emission concentration (85-percent reduction by weight), corrected to 7 percent oxygen, whichever is less stringent.</p> <p>SO<sub>2</sub> emissions shall not exceed 30 parts per million by volume or 20 percent of the potential SO<sub>2</sub> emission concentration (80-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent. This shall be based on a 24 hour averaging time as specified in §60.58b(e).</p> <p>HCl emissions shall not exceed 25 parts per million by volume or 5 percent of the potential HCl emission concentration (95-percent reduction by weight or volume), corrected to 7 percent oxygen (dry basis), whichever is less stringent.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Dioxin/furan total mass emissions shall not exceed 13 nanograms per dry standard cubic meter (total mass), corrected to 7 percent oxygen.</p> <p>During the first year of operation after the date on which the initial performance test is completed or is required to be completed, nitrogen oxides (NOx) emissions shall not exceed 180 ppm by volume, corrected to 7 percent oxygen (dry basis). This shall be based on a 24 hour averaging time as specified in §60.58b(h).</p> <p>After the first year of operation following the date on which the initial performance test is completed or is required to be completed, NOx emissions shall not exceed 150 ppm by volume, corrected to 7 percent oxygen (dry basis). This shall be based on a 24 hour averaging time as specified in §60.58b(h).</p> <p>CO emissions shall not exceed 150 ppm by volume, corrected to 7 percent oxygen (dry basis). This shall be based on a 24 hour averaging time as specified in §60.53b(a).</p> <p>See b)(2)b, b)(2)e through b)(2)i, c)(1) and c)(2).</p>
d.	OAC rule 3745-17-10(B)	The emission limitation required by this applicable rule is less stringent than the emission limitation established in 40 CFR Part 60, Subpart Eb.
e.	OAC rule 3745-17-07(A)	The visible particulate emission limitation required by this applicable rule is less stringent than the visible particulate emission limitation established in 40 CFR Part 60, Subpart Eb.
f.	OAC rule 3745-18-06	The emission limitation required by this applicable rule is less stringent than the emission limitation established in 40 CFR Part 60, Subpart Eb.
g.	OAC rule 3745-20-12(A)	See b)(2)c.
h.	OAC rule 3745-21-08(B)	See b)(2)d.
i.	40 CFR Part 64, Compliance	See b)(2)e through B)(2)i, c)(3), d)(1)



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	Assurance Monitoring (CAM)	through d)(8), and e)(1) through e)(6).

(2) Additional Terms and Conditions

- a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control devices and techniques are required to meet the emission limitations specified under OAC rule 3745-31-10 through 20 above:

Turbosorp® Scrubber system using hydrated lime injection, followed by a fabric filtration system, followed by a RSCR™ (regenerative selective catalytic reduction).

The exhaust gases will exhaust to the atmosphere through a stack (common to B001 and B002) designed to have a height of 241 feet, an exit diameter of 8.5 feet with a flow rate of approximately 325,000 ft<sup>3</sup>/min.

Good combustion practices including the following:

- i. reduction in peak gas temperatures;
  - ii. reduction of excess oxygen in the combustion zone; and/or
  - iii. reduction in the residence time of the combustion products in the high temperature areas of the burner flame.
- b. This emissions unit is subject to New Source Performance Standard (NSPS) Subpart Eb – Standards of Performance for Large Municipal Waste Combustors. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA, Northeast District Office.

These requirements include, but are not limited to the following:

§60.52b - Standards for municipal waste combustor metals, acid gases, organics, and nitrogen oxides.

§60.53b - Standards for municipal waste combustor operating practices.

§60.54b - Standards for municipal waste combustor operator training and certification.

§60.55b - Standards for municipal waste combustor fugitive ash emissions.

§60.57b – Siting requirements.



§60.58b - Compliance and performance testing.

§60.59b - Reporting and recordkeeping requirements.

- c. The baghouse serving this emissions unit shall be designed in accordance with the criteria specified in OAC rule 3745-20-12(A) in order to ensure that any asbestos fibers in the fuel are not emitted to the ambient air.
- d. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established in PTI No. 02-23003. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. On June 24, 2003, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- e. The permittee shall install, operate, and maintain continuous emission monitoring systems (CEMS) on the stack serving this unit for either O<sub>2</sub> or CO<sub>2</sub> and CO, NO<sub>x</sub> and SO<sub>2</sub>. The permittee shall also install, operate, and maintain a continuous opacity monitoring system (COMS) on the stack serving this emissions unit. Each CEMS/COMS shall be installed, operated, and maintained in accordance with 40 CFR 60.58b.
- f. Each continuous opacity monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. At least 45 days before commencing certification testing of the continuous opacity monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of opacity and compliance with Performance Specification 1. The plan shall include, at a minimum, procedures for conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous opacity monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring that Performance Specification 1 is maintained on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous opacity monitoring system must be kept on site and available for inspection during regular office hours.
- g. The continuous opacity monitoring system consists of all the equipment used to acquire data and record opacity.
- h. Each continuous SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, O<sub>2</sub>, and CO monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2, 3, or 4, as applicable. At least 45 days before



commencing certification testing of each CEMS, the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to each CEMS must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

- i. The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- c) Operational Restrictions
- (1) The permittee shall not cause this unit to operate at a load level greater than 110 percent of the maximum demonstrated municipal waste combustor unit load as defined in §60.51b, except as specified below. The averaging time is specified under §60.58b(i).
    - a. During the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test, no municipal waste combustor unit load limit is applicable if the provisions of the following paragraph are met.
    - b. The municipal waste combustor unit load limit may be waived in writing by the Administrator for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving the performance of the unit or advancing the state-of-the-art for controlling emissions. The municipal waste combustor unit load limit continues to apply, and remains enforceable, until and unless the Administrator grants the waiver.
  - (2) The emissions from this emissions unit shall be vented to the Turbosorp® dry scrubber system, the fabric filter system, and the RSCR™ system at all times the emissions unit is in operation.
  - (3) For the Turbosorp® dry scrubber system, the permittee shall maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at a rate which demonstrates compliance with the applicable SO<sub>2</sub> emission limitation of 24 ppm by volume or 20 percent of the potential SO<sub>2</sub> emission concentration (80 percent reduction by weight or volume).
  - (4) The permittee shall install, operate, and maintain an activated carbon injection system that will control mercury emissions. The activated carbon injection system shall be designed for a minimum activated carbon injection rate of 250 pounds of activated carbon per day at the point of injection. The system shall be operated whenever either



or both of the RDF boilers (B001 and/or B002) are in operation in a manner that will maximize the removal efficiency for mercury.

The permittee may request a reduced activated carbon injection rate for this emissions unit after mercury emission tests have been completed, using the test method specified in section f)(2), as long as no applicable mercury emission rates are exceeded. The mercury emission test(s) shall be witnessed by the Ohio EPA Northeast District Office and any adjustment to the activated carbon injection rate is subject to written approval by Ohio EPA [also see f)(3)].

- (5) If the results of the initial performance testing demonstrate that the emissions unit does not meet the limits specified in this permit for CO, the permittee shall begin to employ a precious metal catalyst system in the RSCR™ control device within 14 days after the date that the results of the testing are due to be submitted to the Ohio EPA, Northeast District Office.
- (6) The permittee shall maintain the ammonia solution (19 percent aqueous solution) injection rate into the RSCR™ system at a rate sufficient to maintain the NO<sub>x</sub> emission limitation of 75 ppm, corrected to 7 percent oxygen (dry basis).
- (7) A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound should emissions above the percent saturation, determined during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall not cause this unit to operate at a temperature, measured at the particulate matter control device inlet, exceeding 17 °C above the maximum demonstrated particulate matter control device temperature as defined in §60.51b, except as specified below. The averaging time is specified under §60.58b(i).
  - a. During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no particulate matter control device temperature limitations are applicable if the provisions of the following paragraph are met.
  - b. The particulate matter control device temperature limits may be waived in writing by the Administrator for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving the performance of the unit or advancing the state-of-the-art for controlling emissions. The temperature limits continue to apply, and remain enforceable, until and unless the Administrator grants the waiver.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the baghouse inlet temperature, in degrees Celsius, when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the temperature on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s).



Whenever the monitored value for the temperature deviates from the limit or range specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the temperature readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The acceptable range for the pressure drop across the baghouse shall be based upon the manufacturer=s specifications until such time as any required emission testing is conducted.
- (4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s).

Whenever the monitored value for the pressure drop deviates from the limit or range specified in this permit, the permittee shall promptly investigate the cause of the



deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northeast District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (5) To verify that the lime supplied to the Turbosorp® is always free-flowing in the continuous lime injection system, the permittee shall inspect each feed hopper or silo at least once each 8-hour period and record the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period over the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period.



Alternatively, the permittee may install, operate and maintain a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing.

If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action. The permittee must record the lime feeder setting once each day of operation.

- (6) The following requirements are applicable for the activated carbon injection system used in the Turbosorp dry scrubber system:
- a. During the performance tests for dioxins/furans and mercury, as applicable, the permittee shall estimate an average carbon mass feed rate based on carbon injection system operating parameters such as the screw feeder speed, hopper volume, hopper refill frequency, or other parameters appropriate to the feed system being employed, as specified in d)(6)a.i and d)(6)a.ii.
    - i. An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for mercury emissions and each subsequent performance test for mercury emissions.
    - ii. An average carbon mass feed rate in kilograms per hour or pounds per hour shall be estimated during the initial performance test for dioxin/furan emissions and each subsequent performance test for dioxin/furan emissions. If a subsequent dioxin/furan performance test is being performed on only one emissions unit at the facility, the permittee may elect to apply the same estimated average carbon mass feed rate from the tested emissions unit for all the similarly designed and operated emissions units at the facility.
  - b. During operation of this emissions unit, the carbon injection system operating parameter(s) that are the primary indicator(s) of the carbon mass feed rate ( e.g., screw feeder setting) shall be averaged over a block 8-hour period, and the 8-hour block average must equal or exceed the level(s) documented during the required performance tests, except as specified in paragraphs d)(6)b.i and d)(6)b.ii.
    - i. During the annual dioxin/furan or mercury performance test and the 2 weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for average mass carbon feed rate if the provisions of d)(6)b.ii are met.
    - ii. The limit for average mass carbon feed rate may be waived in accordance with permission granted by the Ohio EPA for the purpose of evaluating system performance, testing new technology or control technologies, diagnostic testing, or related activities for the purpose of improving facility performance or advancing the state-of-the-art for controlling facility emissions.
  - c. The permittee shall estimate the total carbon usage (kilograms or pounds) for each calendar quarter by two independent methods, according to the procedures below:



- i. The weight of carbon delivered to the plant.
  - ii. Estimate the average carbon mass feed rate in kilograms per hour or pounds per hour for each hour of operation for each emissions unit based on the parameters specified under d)(6)a, and sum the results for all affected emissions units at the facility for the total number of hours of operation during the calendar quarter.
- d. Pneumatic injection pressure or other carbon injection system operational indicator shall be used to provide additional verification of proper carbon injection system operation. The operational indicator shall provide an instantaneous visual and/or audible alarm to alert the operator of a potential interruption in the carbon feed that would not normally be indicated by direct monitoring of carbon mass feed rate ( e.g. , continuous weight loss feeder) or monitoring of the carbon system operating parameter(s) that are the indicator(s) of carbon mass feed rate ( e.g. , screw feeder speed). The carbon injection system operational indicator used to provide additional verification of carbon injection system operation, including basis for selecting the indicator and operator response to the indicator alarm, shall be included in section (e)(6) of the site-specific operating manual required under §60.54b(e).

(7) Prior to the installation of the continuous opacity monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 1. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous opacity monitoring system meets the requirements of Performance Specification 1. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the Ohio EPA, (Northeast District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

(8) Prior to startup, the permittee shall install, operate, and maintain a continuous opacity monitoring system to continuously monitor and record the opacity of the particulate emissions from this emissions unit. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous opacity monitoring system including, but not limited to:

- a. percent opacity on an instantaneous (one-minute) and 6-minute block average basis;
- b. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- c. hours of operation of the emissions unit, continuous opacity monitoring system, and control equipment;



- d. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous opacity monitoring system;
  - e. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous opacity monitoring system; as well as,
  - f. the reason (if known) and the corrective actions taken (if any) for each such event in (d) and (e).
- (9) The permit-to-install (PTI) application for this/these emissions unit(s) [B001 and B002] was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The  $\Delta$ Toxic Air Contaminant Statute<sup>@</sup>, ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3 or AERMOD. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled  $\Delta$ Review of New Sources of Air Toxic Emissions, Option A<sup>@</sup>, as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
    - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists= (ACGIH)  $\Delta$ Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices<sup>@</sup>; or
    - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists= (ACGIH)  $\Delta$ Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices<sup>@</sup>; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
  - b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
  - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e.,  $\Delta X$ <sup>@</sup> hours per day and  $\Delta Y$ <sup>@</sup> days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$



- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or worst case toxic contaminant(s):

Toxic Contaminant: ammonia

TLV (ppm): 25

Maximum Hourly Emission Rate (lbs/hr): 7.3

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.148

MAGLC (ug/m3): 414.438

Toxic Contaminant: fluorides

TLV (ppm): 1.0

Maximum Hourly Emission Rate (lbs/hr): 0.27

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.042

MAGLC (ug/m3): 18.493

Toxic Contaminant: sulfuric acid

TLV (mg/m3): 0.1

Maximum Hourly Emission Rate (lbs/hr): 5.57

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.873

MAGLC (ug/m3): 2.381

Toxic Contaminant: hydrogen chloride

TLV (ppm): 5

Maximum Hourly Emission Rate (lbs/hr): 14.32

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.238

MAGLC (ug/m3): 177.456

The permittee, has demonstrated that emissions of each air contaminant from emissions unit(s) B001 and B002, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F). For the purposes of this permit, new raw material does not include MSW or C&D wastes.

- (10) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the

change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup> will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup>, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI, PTIO, or FEPTIO (as applicable) prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (11) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup>, ORC 3704.03(F):
  - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup>, ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup>, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the  $\Delta$ Toxic Air Contaminant Statute<sup>®</sup>, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.



- (12) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the AToxic Air Contaminant Statute<sup>o</sup>, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
  
- (13) Prior to the installation of the continuous monitoring systems, the permittee shall submit information detailing the proposed location of each sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2, 3, or 4, as applicable. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that each continuous monitoring system meets the requirements of Performance Specification 2, 3, or 4, as applicable. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the Director (the Ohio EPA, Northeast District Office) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (14) The permittee shall install, operate, and maintain equipment to continuously monitor and record SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub> or O<sub>2</sub>, and CO emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by each continuous monitoring system including, but not limited to:

- a. emissions of SO<sub>2</sub>, NO<sub>x</sub>, and CO in parts per million on an instantaneous (one-hour averages) basis and percent CO<sub>2</sub> or O<sub>2</sub> on an instantaneous (one-hour averages) basis;
- b. emissions of SO<sub>2</sub>, NO<sub>x</sub>, and CO in all units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitudes of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, each continuous monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or each continuous monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or each continuous monitoring system; as well as,



- i. the reason (if known) and the corrective actions taken (if any) for each such event in g. and h.
- (15) The permittee shall properly install, operate, and maintain equipment to continuously monitor the ammonia solution injection rate, in lbs/hr into the RSCR™ system, when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the flow rate on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s).
  - (16) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.
  - (17) The permittee shall install equipment to continuously monitor and record the activated carbon injection rate in units of pounds per hour. The permittee shall also maintain daily records of the manufacturer and manufacturer's identification of the activated carbon used in the activated carbon injection system.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the baghouse during the operation of the emissions unit(s):
    - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the range specified by these terms and conditions or the baghouse inlet temperature was outside the range specified by these terms and conditions;
    - b. an identification of each incident of deviation described in e)(1)a where a prompt investigation was not conducted;
    - c. an identification of each incident of deviation described in e)(1)a where prompt corrective action, that would bring the pressure drop or inlet temperature into compliance with the acceptable range, was determined to be necessary and was not taken; and
    - d. an identification of each incident of deviation described in e)(1)a where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
  - (2) The permittee shall submit quarterly deviation (excursion) reports that identify each instance where the SO<sub>2</sub> emission limit, as measured by the SO<sub>2</sub> CEMS, exceeded the emission limit allowed by this permit as a result
  - (3) The permittee shall submit quarterly deviation (excursion) reports that identify each instance where the carbon injection rate was not maintained at the level required by this permit.



- (4) The permittee shall submit quarterly deviation (excursion) reports that identify each instance where the NO<sub>x</sub> emission limit, as measured by the NO<sub>x</sub> CEMS, exceeded the emission limit allowed by this permit.
- (5) The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

- (6) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous opacity monitoring system:
  - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northeast District Office, documenting all instances of opacity values in excess of any limitation specified in this permit, 40 CFR Part 60, OAC rule 3745-17-07, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude (percent opacity) of each six-minute block average exceeding the applicable opacity limitation(s), as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance.
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous opacity monitor;
    - iii. a description of any change in the equipment that comprises the continuous opacity monitoring system (COMS), including any change to the hardware, changes to the software that may affect COMS readings, and/or changes in the location of the COMS sample probe;
    - iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
    - v. the total operating time (hours) of the emissions unit;
    - vi. the total operating time of the continuous opacity monitoring system while the emissions unit was in operation;
    - vii. the date, time, and duration of any/each malfunction\*\* of the continuous opacity monitoring system, emissions unit, and/or control equipment;
    - viii. the date, time, and duration of any downtime\*\* of the continuous opacity monitoring system and/or control equipment while the emissions unit was in operation; and



- ix. the reason (if known) and the corrective actions taken (if any) for each event in b.vii. and viii.

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no exceedance of the opacity limit has occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the quarterly EER report

\*\* each downtime and malfunction event shall be reported regardless if there is an exceedance of the opacity limit

- (7) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous monitoring systems:

- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northeast District Office, documenting all instances of emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:

- i. the facility name and address;
- ii. the manufacturer and model number of the continuous and other associated monitors;
- iii. a description of any change in the equipment that comprises each CEMS, including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total SO<sub>2</sub>, NO<sub>x</sub>, and CO emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of each continuous monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits;



- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing any continuous monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction\*\* of any continuous monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\*\* of any continuous monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in xi. and xii.

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

\*\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (8) The permittee shall submit annual reports to the Ohio EPA, Northeast District Office, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the AToxic Air Contaminant Statute<sup>o</sup>, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

f) Testing Requirements

- (1) Compliance with the emission limitations specified in this permit shall be determined in accordance with the following methods:

a. Emission Limitations:

Annual emissions from this emissions unit shall not exceed any of the following:

- 35.0 tons/year of PM/PM10
- 0.30 ton/year of lead
- 81.5 tons/year of SO2
- 31.3 tons/year of HCl
- 0.00013 ton/year of dioxins/furans
- 292.0 tons/year of NOx



- 261.5 tons/year of CO
- 12.2 tons/year of sulfuric acid
- 0.040 ton/year of cadmium
- 0.07 ton/year of mercury
- 0.60 ton/year of hydrogen fluorides
- 16.1 tons/year of ammonia

Applicable Compliance Method:

The above annual emission limitations are based on the controlled potential to emit for this emissions unit. Therefore, compliance is assumed provided that compliance with each respective short term emission limit is maintained.

b. Emission Limitation:

Short term emission limits in b)(1)a, b)(1)b and b)(1)c.

Applicable Compliance Method:

Compliance with the emission limitations specified in b)(1)a., b)(1)b. and b)(1)c. shall be determined through stack testing and CEMS/COMS requirements in accordance with f)(2) through f)(5)

c. Emission Limitation:

15.0 ppm of ammonia

Applicable Compliance Method:

Compliance with this emission limitation is based on the manufacturer's demonstration that this emission factor represents the maximum concentration that will be emitted from each boiler. If ammonia is injected at elevated rates based on the record keeping in d)(15), stack testing may be required using the procedures specified in CTM-027 or another Ohio EPA-approved test method to ensure that this limit is not exceeded.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but no later than 180 days after initial start-up of the facility, and annually thereafter in accordance with the following:

The permittee shall conduct emissions testing on a calendar year basis (no less than nine calendar months and no more than 15 calendar months following the previous performance test; and must complete five performance tests in each five-year calendar period).

b. The emission testing shall be conducted to demonstrate compliance with the allowable concentration of PM/PM10, lead, SO2, HCl, dioxins/furans, NOx, CO,



cadmium, mercury, hydrogen fluorides, and sulfuric acid in the exhaust gases and the opacity limit for the exhaust gases.

- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM/PM10 - Method 5 of 40 CFR Part 60, Appendix A

Lead – Methods 12 or 29 of 40 CFR Part 60, Appendix A

SO<sub>2</sub> – Methods 6, 6C, or 8 of 40 CFR Part 60, Appendix A

HCl – Methods 26 or 26A of 40 CFR Part 60, Appendix A

Dioxins/furans – Method 23 of 40 CFR Part 60, Appendix A

NO<sub>x</sub> – Method 7 or 7E of 40 CFR Part 60, Appendix A

CO – Method 10 of 40 CFR Part 60, Appendix A

Cadmium – Method 29 of 40 CFR Part 60, Appendix A

Mercury – Method 29 of 40 CFR Part 60, Appendix A or Method 101A of 40 CFR Part 61, Appendix B

Hydrogen fluorides - Methods 26 or 26A of 40 CFR Part 60, Appendix A

Sulfuric acid - Methods 26 or 26A of 40 CFR Part 60, Appendix A

Opacity – Method 9 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.
- e. The permittee shall maintain records of the pressure drop across the baghouse during each 1 hour run in order to establish an acceptable pressure drop range as required in d)(3).
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).
- g. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and



information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

- h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 60 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.
- (3) The permittee shall perform an activated carbon injection study to determine the optimum operating parameters of the activated carbon injections system as described in c)(4) to maximize the control of mercury emissions. The permittee shall submit to the Ohio EPA Northeast District Office and Ohio EPA, DAPC, Central Office a carbon injection study plan for approval within 60 days prior to the proposed date of the commencement of the optimization study.
- (4) Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but no later than 180 days after initial start-up at the facility, the permittee shall conduct certification tests on the COMS equipment pursuant to 40 CFR Part 60, Appendix B, Performance Specification 1 and ORC section 3704.03(I).

Personnel from the Ohio EPA, Central Office and the Ohio EPA, Northeast District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northeast District Office and one copy to Ohio EPA, Central Office, and pursuant to OAC rule 3745-15-04, within 60 days after the test is completed.

Certification of the COMS shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1; ORC section 3704.03(I); and ASTM D 6216-98.

- (5) Ongoing compliance with the opacity limitation contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.
- (6) Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but no later than 180 days after initial start-up at the facility, the permittee shall conduct certification tests of each continuous monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2, 3, or 4, as applicable; and ORC section 3704.03(I).

Personnel from the Ohio EPA, Central Office and the Ohio EPA, Northeast District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northeast District Office and one copy to Ohio EPA, Central Office, and pursuant to OAC rule 3745-15-04, within 60 days after the test is completed.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Draft Permit-to-Install**

**Permit Number:** 02-23003

**Facility ID:** 0250001120

**Effective Date:** To be entered upon final issuance

Certification of each continuous monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2, 3, or 4, as applicable; and ORC section 3704.03(I).

g) Miscellaneous Requirements

(1) None.



**5. Emissions Unit Group – MSW Grinders 1 and 2: P902, P903, and P904**

EU ID	Operations, Property and/or Equipment Description
P902	MSW to RDF Processing Equipment - Grinder 1, with baghouse
P903	MSW to RDF Processing Equipment - Grinder 2, with baghouse
P904	C&D to RDF Processing Equipment, with baghouse
All terms and conditions apply to each of P902, P903, and P904 individually.	

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 rules 3745-31-10 through 20 40 CFR Part 52, Section 52.21	Particulate matter (PM)/PM less than 10 microns (PM10) shall not exceed 0.005 gr/dscf, 1.07 lbs/hr and 4.69 tpy.
b.	OAC rule 3745-31-05(A)(3)	See b)(2)c.
c.	OAC rule 3745-17-11(B)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 20.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the following control devices and techniques are required to meet the emission limitations specified under OAC rules 3745-31-10 through 20 above:



- i. a baghouse system capable of meeting 0.005 gr/dscf of exhaust gases; and
    - ii. a fully enclosed capture system which prevent emissions of fugitive dust from entering the ambient air.
  - b. The emissions from this emissions unit shall be vented to the baghouse at all times the emissions unit is in operation.
  - c. Permit-to-install (PTI) 02-23003 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).
- c) Operational Restrictions
  - (1) A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound should emissions above the percent saturation, determined during the calibration testing, be exceeded.
  - (2) The baghouse shall be employed at all times during which this emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s). The acceptable pressure drop shall be based upon the manufacturer=s specifications until such time as any required emission testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever the monitored value for the pressure drop deviates from the range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

    - a. the date and time the deviation began;
    - b. the magnitude of the deviation at that time;
    - c. the date the investigation was conducted;
    - d. the name(s) of the personnel who conducted the investigation; and
    - e. the findings and recommendations.



In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable range for the pressure drop across the baghouse shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted.

This range of the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northeast District Office. The permittee may request revisions to the permitted range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack and for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.



If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (3) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the baghouse during the operation of the emissions unit(s):

- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- b. an identification of each incident of deviation described in Aa@ (above) where a prompt investigation was not conducted;
- c. an identification of each incident of deviation described in Aa@ where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- d. an identification of each incident of deviation described in Aa@ where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Director (Ohio EPA, Northeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.



f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

0.005 gr/dscf, 1.07 lbs/hr and 4.69 TPY of PM/PM10

Applicable Compliance Method:

Compliance with the emission limitations above shall be determined by stack testing in accordance with f)(2). The annual emission rate was created by multiplying the hourly emission rate by 8,760 hours and dividing by 2,000 lbs/ton. If required, stack testing shall be performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation above shall be determined in accordance with the methods and procedures specified in Method 9 of 40 CFR Part 60, Appendix A.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but no later than 180 days after initial start-up of the facility, and annually thereafter in accordance with the following:

If results of the emission testing indicate an actual emission rate of more than 50 percent of the allowable emission limit, the permittee shall conduct emissions testing on a calendar year basis (no less than nine calendar months and no more than 15 calendar months following the previous performance test).

If results of the emission testing indicate an actual emission rate of less than or equal to 50 percent of the allowable emission limit, the permittee may reduce the frequency of the emissions testing to 5 years after the previous test.

b. The emission testing shall be conducted to demonstrate compliance with the allowable concentration of PM/PM10.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM/PM10 – Methods 1 through 5 of 40 CFR Part 60, Appendix A



Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.
- e. The permittee shall maintain records of the pressure drop across the baghouse during each 1 hour run in order to establish an acceptable pressure drop range as required in d)(1).
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).
- g. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- h. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

g) Miscellaneous Requirements

- (1) None.