

PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: OP2013-051
Expiration Date: AUG 12 2018
Installation ID: 147-0005
Project Number: 2013-03-037

Installation Name and Address

Northwest Missouri State University
800 University Drive
Maryville, MO 64468-6015
Nodaway County

Parent Company's Name and Address

Northwest Missouri State University
800 University Dr.
Maryville, MO 64468

Installation Description:

Northwest Missouri State University is an educational institution for higher learning. The installation operates a power plant consisting of three natural gas boilers, a paper pellet/animal waste boiler, and a wood chip/animal waste boiler. Additional equipment includes wood chip, pellet, and ash storage piles, waste paper grinding, mixing and pelletizing animal waste with paper/wood chips, fuel storage tanks, a parts cleaners, small heaters and boilers, crucible furnaces, aluminum and bronze casting, two natural gas-fired kilns, a wood-fired kiln, and ceramic glazing. The installation is a major source of sulfur oxides (SO_x), Nitrogen Oxides (NO_x), and Carbon Monoxide (CO).

AUG 13 2013

Effective Date

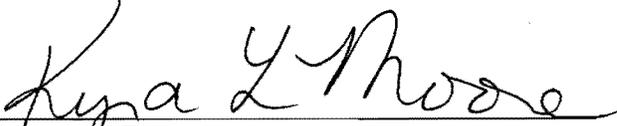

Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

Northwest Missouri State University is an educational institution for higher learning. The installation operates a power plant consisting of three natural gas boilers, a paper pellet/animal waste boiler, and a wood chip/animal waste boiler. Additional equipment includes wood chip, pellet, and ash storage piles, waste paper grinding, mixing and pelletizing animal waste with paper/wood chips, fuel storage tanks, a parts cleaners, small heaters and boilers, crucible furnaces, aluminum and bronze casting, two natural gas-fired kilns, a wood-fired kiln, and ceramic glazing. The installation is a major source of SO_x, NO_x, and CO.

Reported Air Pollutant Emissions, tons per year					
Pollutants	2011	2010	2009	2008	2007
Condensable Particulate Matter (PM CON)	0.14	0.25	0.28	-	-
Filterable Particulate Matter ≤ Ten Microns (PM ₁₀)	2.71	2.86	1.71	-	-
Filterable Particulate Matter ≤ 2.5 Microns (PM _{2.5})	1.93	1.94	1.38	-	-
Primary Particulate Matter ≤ Ten Microns (PM ₁₀)	-	-	-	3.03	3.36
Primary Particulate Matter ≤ 2.5 Microns (PM _{2.5})	-	-	-	2.22	2.41
Sulfur Oxides (SO _x)	1.62	17.72	0.71	0.87	0.70
Nitrogen Oxides (NO _x)	23.16	25.22	18.88	25.24	26.92
Volatile Organic Compounds (VOC)	1.56	1.56	1.17	1.62	1.80
Carbon Monoxide (CO)	54.52	51.72	37.71	57.07	63.41
Ammonia (NH ₃)	0.005	0.05	0.02	-	-
Hazardous Air Pollutants (HAP)	3.43	3.20	2.25	3.64	4.10
Hydrogen Chloride (7647-01-0)	1.68	1.57	1.10	1.78	2.01
Formaldehyde (50-00-0)	0.39	0.36	0.26	0.41	0.47
Benzene (71-43-2)	0.37	0.35	0.24	0.39	0.44
Acrolein (107-02-8)	0.35	0.33	0.23	0.38	0.42
Styrene (100-42-5)	0.17	0.16	0.11	0.18	0.20
Manganese Compounds (20-12-2)	0.14	0.13	0.09	0.15	0.17
Toluene (108-88-3)	0.08	0.08	0.05	0.09	0.10
Acetaldehyde (75-07-0)	0.07	0.07	0.05	0.08	0.09
Chlorine (7782-50-5)	0.07	0.07	0.05	0.07	0.08
Dichloromethane (75-09-2)	0.03	0.02	0.02	0.03	0.03
Polycyclic Organic Matter (TP15)	0.01	0.01	0.01	0.01	0.01
Naphthalene (91-20-3)	0.01	0.01	0.01	0.01	0.01
Propionaldehyde (123-38-6)	0.01	0.01	0.004	0.01	0.01
Ethylene Dibromide (106-93-4)	0.005	0.005	0.003	0.01	0.01
Phenol (108-95-2)	0.005	0.004	0.003	0.005	0.01
Lead Compounds (20-11-1)	0.001	0.001	0.001	0.005	0.01

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Emission Unit	Description
EP-01	Boiler #1
EP-02	Boiler #2
EP-03	Boiler #3
EP-04	Boiler #4
EP-05	Boiler #5
EP-07	Wood Chip Storage Pile
EP-08	Waste Paper Grinder
EP-09	Pelletizer
EP-10	Three Gasoline Storage Tanks (5,250 gallons, 570 gallons, and 50 gallons)
EP-14	Hammermill
EP-14B	Animal Waste Pelletizer
EP-15	Emergency Generator
EP-17	Ash Storage Pile (from combustion of paper pellets & wood chips)
EP-18B	Crucible Furnaces - Process
EP-19	Casting (Aluminum or Bronze)
EP-20B	Wood-fired Clay Kiln

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Emission Unit	Description
EP-06	Haul Road
EP-11	Six Oil Storage Tanks (15,000 gallons, 5,250 gallons, 110 gallons, 570 gallons, and two 300 gallons)
EP-12	Parts Cleaners
EP-13	Natural Gas Combustion - Small Heaters/Boilers
EP-14A	Mixer
EP-16	Pellet Storage Pile (inside Pelletizing Plant building)
EP-18A	Crucible Furnaces - Natural Gas Combustion
EP-20A	Two Natural Gas-fired Clay Kilns
EP-20C	Clay Kilns (Process)
EP-21	Ceramic Glazing

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

None.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

PERMIT CONDITION 001	
10 CSR 10-6.060 Construction Permits Required Construction Permit 122002-008, Issued November 8, 2002	
Emission Unit	Description
EP-04	Boiler #4
EP-05	Boiler #5

Emission Limitation:

1. Special Condition 1.A: The permittee shall emit less than 40 tons of NO_x from the combustion of animal waste/paper pellets in EP-04 Boiler #4 and animal waste/wood chips in EP-05 Boiler #5 in any consecutive 12-month period.
2. Special Condition 1.B: The permittee shall emit less than 15 tons of PM₁₀ from the combustion of animal waste/paper pellets in EP-04 Boiler #4 and animal waste/paper pellets in EP-05 Boiler #5 in any consecutive 12-month period.

Operational Limitations:

1. Special Condition 2.A: The two-stage ash collector (cyclone) associated with EP-04 Boiler #4 shall be in use at all times when the boiler is in operation. The cyclone and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications.
2. Special Condition 2.B: The permittee shall inspect the cyclone at least once every six months and at a minimum conduct the following activities:
 - a) Check the cleaning sequence of the cyclone for proper operation;
 - b) Inspect all components of the control system that are not subject to wear or plugging, including structural components, housing, ducts, hoods, etc.; and
 - c) If leaks or abnormal conditions are found during these inspections, the appropriate remedial actions shall be implemented before re-starting the equipment.
3. Special Condition 3.A: The wet scrubber associated with the EP-05 Boiler #5 shall be in use at all times when the boiler is in operation. The wet scrubber and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications.
4. Special Condition 3.B: The permittee shall inspect the wet scrubber at least once every six months and at a minimum conduct the following activities:
 - a) Check the cleaning sequence of the wet scrubber for proper operation;
 - b) Inspect all components of the control system that are not subject to wear or plugging, including structural components, housing, ducts, hoods, etc.; and
 - c) If leaks or abnormal conditions are found during these inspections, the appropriate remedial actions shall be implemented before re-starting the equipment.

Monitoring/Recordkeeping:

1. Special Condition 1.C: The permittee shall use Attachments A and B or equivalent forms approved by the Air Pollution Control Program to demonstrate compliance with Special Conditions 1.A and 1.B. The permittee shall maintain all records required by this permit for not less than five years and

shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

2. Special Condition 2.C: The permittee shall maintain an operating, maintenance, and inspection log for the cyclone which shall include the following:
 - a) Incidents of malfunction(s) including the date(s) and duration of the event, the probable cause, any corrective actions taken and the impact on emissions due to the malfunction;
 - b) Any maintenance activities conducted on the units, such as replacement of equipment, etc.; and
 - c) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.
3. Special Condition 3.C: The permittee shall maintain an operating, maintenance, and inspection log for the wet scrubber which shall include the following:
 - a) Incidents of malfunction(s) including the date(s) and duration of the event, the probable cause, any corrective actions taken and the impact on emissions due to the malfunction;
 - b) Any maintenance activities conducted on the unit, such as replacement of equipment, etc.; and
 - c) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

Reporting:

1. Special Condition 1.D: The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which the records from Special Condition 1.C indicate that the source exceeded the limitations of Special Conditions 1.A or 1.B.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 002	
10 CSR 10-6.060 Construction Permits Required	
Construction Permit 102000-029, Issued October 4, 2000	
Emission Unit	Description
EP-14	Hammermill

Operational Limitations:

1. Special Condition 1.A: The cyclone associated with EP-14 Hammermill shall be in use at all times when the hammermill is in operation. The cyclone and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications.
2. Special Condition 1.B: The permittee shall inspect the cyclone at least once every six months and at a minimum conduct the following activities:
 - a) Check the cleaning sequence of the cyclone for proper operation;
 - b) Inspect all components of the control system that are not subject to wear or plugging, including structural components, housing, ducts, hoods, etc.; and
 - c) If leaks or abnormal conditions are found during these inspections, the appropriate remedial actions shall be implemented before restarting the equipment.

Monitoring:

1. Special Condition 1.C: The permittee shall maintain an operating, maintenance, and inspection log for the cyclone which shall include the following:

- a) Incidents of malfunction(s) including the date(s) and duration of the event, the probable cause, any corrective actions taken and the impact on emissions due to the malfunction;
 - b) Any maintenance activities conducted on the unit, such as replacement of equipment, etc.; and
 - c) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.
2. All records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
 3. All records shall be maintained for five years.

Reporting:

The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 003 10 CSR 10-6.060 Construction Permits Required Construction Permit 0792-038, Issued July 28, 1992	
Emission Unit	Description
EP-04	Boiler #4

Operational Limitation:

Special Condition 1: The permittee shall not combust paper pellets in EP-04 Boiler #4 in excess of 7,999 tons per consecutive 12-month period.

Monitoring/Recordkeeping:

1. Special Condition 2: The permittee shall maintain records of the amount of paper pellets combusted in Boiler #4 each day and calculate monthly the total amount of paper pellets burned during each consecutive 12-month period using Attachment C.
2. All records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be maintained for five years.

Reporting:

1. Special Condition 3: The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which records indicate an exceedance of the operational limitation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 004 10 CSR 10-6.070 New Source Performance Regulations 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	
Emission Unit	Description
EP-04	Boiler #4

Recordkeeping and Reporting:

1. Except as provided under §60.48c(g)(2) and (3), the permittee shall record and maintain records of the amount of each fuel combusted during each operating day. [§60.48c(g)(1)]
2. As an alternative to meeting the requirements of §60.48c(g)(1), the permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§60.48c(g)(2)]
3. As an alternative to meeting the requirements of §60.48c(g)(1), the permittee may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month. [§60.48c(g)(3)]
4. All records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
5. All records shall be maintained for five years.
6. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 005 10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart CCCCCC – National Emissions Standards for HAP for Source Category: Gasoline Dispensing Facilities	
Emission Unit	Description
EP-10	Three Gasoline Storage Tanks (5,250 gallons, 570 gallons, and 50 gallons)

Emission Limitations and Management Practices:

1. The permittee shall, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.11115(a)]
2. The permittee shall keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b). [§63.11115(b)]
3. Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline:
 - a) The permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: [§63.11116(a)]
 - i) Minimize gasoline spills; [§63.11116(a)(1)]
 - ii) Clean up spills as expeditiously as practicable; [§63.11116(a)(2)]
 - iii) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; [§63.11116(a)(3)]
 - iv) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. [§63.11116(a)(4)]
 - b) The permittee is not required to submit notifications or reports as specified in §63.11125, §63.11126, or 40 CFR Part 63, Subpart A, but the permittee shall have records available within 24 hours of a request by the Administrator to document the gasoline throughput. [§63.11116(b)]
 - c) Portable gasoline containers that meet the requirements of 40 CFR Part 59, Subpart F, are considered acceptable for compliance with §63.11116(a)(3). [§63.11116(d)]

Recordkeeping:

1. The permittee shall keep the following records:
 - a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [§63.11125(d)(1)]
 - b) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [§63.11125(d)(2)]
 - c) The permittee shall retain records documenting their monthly gasoline throughput. Monthly throughput is the total volume of gasoline loaded into, or dispensed from, all the gasoline storage tanks located at the installation. [§63.11111(e) and (h)]
2. All records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be maintained for five years.

General Provisions:

The permittee shall refer to Table 3 to 40 CFR Part 63, Subpart CCCCCC for 40 CFR Part 63, Subpart A applicability.

Reporting:

1. The permittee shall report, by March 15 of each year, the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by the permittee during a malfunction of an affected source to minimize emissions in accordance with §63.11115(a), including actions taken to correct a malfunction. No report is necessary for a calendar year in which no malfunctions occurred. [§63.11126(b)]
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 006			
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations 40 CFR Part 63, Subpart JJJJJ – National Emission Standards for HAP for Industrial, Commercial, and Institutional Boilers Area Sources			
Emission Unit	Description	MHDR (MMBtu/hr)	Subcategory
EP-01	Fuel oil/Natural gas-fired Boiler #1	26	Existing Oil-fired boiler
EP-02	Fuel oil/Natural gas-fired Boiler #2	26	Existing Oil-fired boiler
EP-03	Fuel oil/Natural gas-fired Boiler #3	26	Existing Oil-fired boiler
EP-04	Paper pellet/Animal waste-fired Boiler #4	26	Existing Biomass-fired boiler
EP-05	Wood chip/Animal waste-fired Boiler #5	36	Existing Biomass-fired boiler

Compliance Dates:

1. The permittee shall achieve compliance with the applicable provisions in 40 CFR Part 63, Subpart JJJJJ as follows: [§63.11196(a)]
 - a) The permittee shall achieve compliance with work practice or management practice standards by no later than March 21, 2014. [§63.11196(a)(1)]

- b) The permittee shall achieve compliance with the energy assessment requirements by no later than March 21, 2014. [§63.11196(a)(3)]

Standards:

1. The permittee shall comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to 40 CFR Part 63, Subpart JJJJJ that applies. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 to 40 CFR Part 63, Subpart JJJJJ satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement. [§63.11201(b)]
2. These standards apply at all times the affected boiler is operating, except during periods of startup and shutdown as defined in §63.11237, during which time the permittee comply only with Table 2 to 40 CFR Part 63, Subpart JJJJJ. [§63.11201(d)]

Table 2 to 40 CFR Part 63, Subpart JJJJJ – Work Practice Standards, Emission Reduction Measures, and Management Practices

For each...	The permittee shall meet the following...
4. Existing oil-fired boilers with heat input capacity greater than 5 MMBtu/hr	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.
6. Existing biomass-fired boilers	Conduct an initial tune-up as specified in §63.11214, and conduct a tune-up of the boiler biennially as specified in §63.11223.
16. Existing biomass-fired or oil-fired boilers (units with heat input capacity of 10 MMBtu/hr and greater)	Shall have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment shall include the following with extent of the evaluation for items (1) to (4) appropriate for the on-site technical hours listed in §63.11237:
	(1) A visual inspection of the boiler system,
	(2) An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
	(3) An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the permittee,
	(4) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
	(5) A list of major energy conservation measures that are within the facility's control,
	(6) A list of the energy savings potential of the energy conservation measures identified, and
	(7) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

General Compliance Requirements:

At all times the permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.11205(a)]

Initial Compliance Requirements:

1. For existing affected boilers that have applicable work practice standards, management practices, or emission reduction measures, the permittee shall demonstrate initial compliance no later than the compliance date that is specified in §63.11196 and according to the applicable provisions in §63.7(a)(2), except as provided in §63.11210(j). [§63.11210(c)]
2. For affected boilers that switch fuels or make a physical change to the boiler that results in the applicability of a different subcategory within 40 CFR Part 63, Subpart JJJJJ, the permittee shall demonstrate compliance within 180 days of the effective date of the fuel switch or the physical change. Notification of such changes shall be submitted according to §63.11225(g). [§63.11210(h)]
3. For existing affected boilers that have not operated between the effective date of the rule and the compliance date that is specified in §63.11196, the permittee shall comply with the following applicable provisions: [§63.11210(j)]
 - a) The permittee shall complete the initial performance tune-up by following the procedures described in §63.11223(b) no later than 30 days after the re-start of the affected boiler. [§63.11210(j)(2)]
 - b) The permittee shall complete the one-time energy assessment no later than the compliance date specified in §63.11196. [§63.11210(j)(3)]
4. For an existing biomass-fired boiler or an existing oil-fired boiler, the permittee shall conduct a performance tune-up according to §63.11223(b) and the permittee shall submit a signed statement in the Notification of Compliance Status report that indicates that the permittee has conducted a tune-up of the boiler. [§63.11214(b)]
5. For existing affected boilers with a heat input capacity of 10 MMBtu/hr or greater, the permittee shall submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to 40 CFR Part 63, Subpart JJJJJ and is an accurate depiction of the facility. [§63.11214(c)]

Continuous Compliance Requirements:

1. The permittee shall conduct a performance tune-up according to §63.11223(b) and keep records as required in §63.11225(c) to demonstrate continuous compliance. The permittee shall conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up. [§63.11223(a)]
2. Except as specified in §63.11223(c) through (f), the permittee shall conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in §63.11223(b)(1) through (7). Each biennial tune-up shall be conducted no more than 25 months after the previous tune-up. [§63.11223(b)]

- a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). [§63.11223(b)(1)]
- b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. [§63.11223(b)(2)]
- c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). [§63.11223(b)(3)]
- d) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject. [§63.11223(b)(4)]
- e) Measure the concentrations in the effluent stream of CO in ppmv and O₂ in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [§63.11223(b)(5)]
- f) Maintain on-site and submit, if requested by the Administrator, a report containing the following information: [§63.11223(b)(6)]
 - i) The concentrations of CO in the effluent stream in ppmv and O₂ in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler. [§63.11223(b)(6)(i)]
 - ii) A description of any corrective actions taken as a part of the tune-up of the boiler. [§63.11223(b)(6)(ii)]
 - iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [§63.11223(b)(6)(iii)]
- g) If the unit is not operating on the required date for a tune-up, the tune-up shall be conducted within 30 days of startup. [§63.11223(b)(7)]

General Provisions:

The permittee shall refer to Table 8 to 40 CFR Part 63, Subpart JJJJJ for 40 CFR Part 63, Subpart A applicability.

Notification, Recordkeeping, and Reporting:

1. The permittee shall submit the following notifications to the administrator: [§63.11225(a)]
 - a) The permittee shall submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply by the dates specified in those sections except as specified in §63.11225(a)(2) and (4). [§63.11225(a)(1)]
 - b) An Initial Notification shall be submitted no later than January 20, 2014 or within 120 days after the source becomes subject to the standard. [§63.11225(a)(2)]
 - c) The permittee shall submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196. The permittee shall submit the Notification of Compliance Status in accordance with §63.11225(a)(4)(i) and (vi). The Notification of Compliance Status shall include the information and certification(s) of compliance in

- §63.11225(a)(4)(i) through (v), as applicable, and signed by a responsible official.
[§63.11225(a)(4)]
- i) The permittee shall submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F). [§63.11225(a)(4)(i)]
 - ii) “This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler.” [§63.11225(a)(4)(ii)]
 - iii) “This facility has had an energy assessment performed according to §63.11214(c).” [§63.11225(a)(4)(iii)]
 - iv) For units that do not qualify for a statutory exemption as provided in §129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” [§63.11225(a)(4)(v)]
 - v) The notification shall be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to 40 CFR Part 63, Subpart JJJJJ is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status shall be submitted to the Administrator at the appropriate address listed in §63.13. [§63.11225(a)(4)(vi)]
2. The permittee shall prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in §63.11225(b)(1) through (4). The permittee shall submit the report by March 15 if any instance described by §63.11225(b)(3) occurred. For boilers that are subject only to a requirement to conduct a biennial tune-up according to §63.11223(a) and not subject to emission limits or operating limits, the permittee may prepare only a biennial compliance report as specified in §63.11225(b)(1) and (2). [§63.11225(b)]
- a) Company name and address. [§63.11225(b)(1)]
 - b) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJ. The notification shall include the following certification(s) of compliance, as applicable, and signed by a responsible official: [§63.11225(b)(2)]
 - i) “This facility complies with the requirements in §63.11223 to conduct a biennial tune-up, as applicable, of each boiler.” [§63.11225(b)(2)(i)]
 - ii) For units that do not qualify for a statutory exemption as provided in §129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.” [§63.11225(b)(2)(ii)]
 - c) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken. [§63.11225(b)(3)]
3. The permittee shall maintain the following records: [§63.11225(c)]
- a) As required in §63.10(b)(2)(xiv), the permittee shall keep a copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart JJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted. [§63.11225(c)(1)]
 - b) The permittee shall keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as follows: [§63.11225(c)(2)]

- i) Records shall identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. [§63.11225(c)(2)(i)]
 - ii) For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §241.3(b)(1), the permittee shall keep a record which documents how the secondary material meets each of the legitimacy criteria under §241.3(d)(1). If the permittee combusts a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4), the permittee shall keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2 and each of the legitimacy criteria in §241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c), the permittee shall keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per §241.4, the permittee shall keep records documenting that the material is a listed non-waste under §241.4(a). [§63.11225(c)(2)(ii)]
 - iii) For each boiler required to conduct an energy assessment, the permittee shall keep a copy of the energy assessment report. [§63.11225(c)(2)(iii)]
 - c) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment. [§63.11225(c)(4)]
 - d) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation. [§63.11225(c)(5)]
4. Records shall be in a form suitable and readily available for expeditious review. The permittee shall keep each record for five years following the date of each recorded action. The permittee shall keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least two years after the date of each recorded action. The permittee may keep the records off site for the remaining three years. [§63.11225(d)]
5. If the permittee intends to commence or recommence combustion of solid waste, the permittee shall provide 30 days prior notice of the date upon which the permittee will commence or recommence combustion of solid waste. The notification shall identify: [§63.11225(f)]
- a) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will commence burning solid waste, and the date of the notice. [§63.11225(f)(1)]
 - b) The currently applicable subcategory under 40 CFR Part 63, Subpart JJJJJJ. [§63.11225(f)(2)]
 - c) The date on which the permittee became subject to the currently applicable emission limits. [§63.11225(f)(3)]
 - d) The date upon which the permittee will commence combusting solid waste. [§63.11225(f)(4)]
6. If the permittee has switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within 40 CFR Part 63, Subpart JJJJJJ or in the boiler switching out of 40 CFR Part 63, Subpart JJJJJJ due to a change to 100 percent natural gas, the permittee shall provide notice of the date upon which the permittee switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification shall identify: [§63.11225(g)]
- a) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. [§63.11225(g)(1)]
 - b) The date upon which the fuel switch, physical change, or permit limit occurred. [§63.11225(g)(2)]

7. All records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
8. All records shall be maintained for five years.
9. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 007	
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants	
Emission Unit	Description
EP-01	Boiler #1
EP-02	Boiler #2
EP-03	Boiler #3

Emission Limitation:

1. The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 40 percent.
2. Exception: The permittee may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60 percent.

Monitoring:

1. The permittee shall conduct opacity readings on these emission units using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission units are operating and when the weather conditions allow. If no visible emissions are observed using Method 22, then no further observations would be required. For emission units with visible emissions, the permittee representative would then conduct a Method 9 observation.
2. The following monitoring schedule shall be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
 - c) Observations shall be made once per month. If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to daily monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

1. The permittee shall maintain records of all observation results (see Attachments D & E, or equivalent forms generated by the permittee), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units and
 - b) All emission units from which visible emissions occurred.
2. The permittee shall maintain records of any equipment malfunctions and maintenance using Attachment F.
3. The permittee shall maintain records of any Method 9 opacity test performed in accordance with this permit condition.
4. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

5. All records must be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 008	
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants	
Emission Unit	Description
EP-05	Boiler #5
EP-08	Waste Paper Grinder
EP-09	Pelletizer
EP-14B	Animal Waste Pelletizer

Emission Limitation:

1. The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20 percent.
2. Exception: The permittee may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60 percent.

Monitoring:

1. The permittee shall conduct opacity readings on these emission units using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission units are operating and when the weather conditions allow. If no visible emissions are observed using Method 22, then no further observations would be required. For emission units with visible emissions, the permittee representative would then conduct a Method 9 observation.
2. The following monitoring schedule shall be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then
 - b) Observations must be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
 - c) Observations shall be made once per month. If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to daily monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

1. The permittee shall maintain records of all observation results (see Attachments D & E, or equivalent forms generated by the permittee), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units and
 - b) All emission units from which visible emissions occurred.

2. The permittee shall maintain records of any equipment malfunctions and maintenance using Attachment F.
3. The permittee shall maintain records of any Method 9 opacity test performed in accordance with this permit condition.
4. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
5. All records must be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 009	
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants	
Emission Unit	Description
EP-07	Wood Chip Storage Pile
EP-17	Ash Storage Pile

Emission Limitation:

1. The permittee shall not cause or permit to be discharged into the atmosphere from these emission units any visible emissions with an opacity greater than 20 percent.
2. Exception: The permittee may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six minutes in any 60 minutes air contaminants with an opacity up to 60 percent.

Monitoring:

1. The permittee shall conduct opacity readings on these emission units using the procedures contained in U.S. EPA Test Method 22. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible emissions are observed using Method 22, then no further observations would be required. For emission units with visible emissions, the permittee representative would then conduct a Method 9 observation or perform a *Best Management Practice*.
2. The following monitoring schedule shall be maintained:
 - a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then
 - b) Observations shall be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then
 - c) Observations shall be made once per month. If a violation is noted, monitoring reverts to weekly.
3. If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Best Management Practices:

1. For emission units with visible emissions, the permittee shall conduct a Method 9 observation or control emissions by performing at least one of the following *Best Management Practices*:
 - a) Pavement of Stockpile Vehicle Activity Surfaces –
 - i) The permittee may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement shall be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
 - ii) Maintenance and/or repair of the road surface shall be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating. The permittee shall document which ASTM standards the installation is complying with.
 - iii) The permittee shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - b) Usage of Chemical Dust Suppressants –
 - i) The permittee shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant shall be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - ii) The permittee shall retain the manufacturer's specifications for the chemical dust suppressant from which the application rate amount and frequency was taken.
 - iii) The permittee shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The permittee shall retain these records with the plant for not less than five years, and the permittee shall make these records available to Department of Natural Resources' personnel upon request.
 - c) Usage of Documented Watering –
 - i) The permittee shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering shall be applied in accordance with a recommended application rate of 100 gal/day per 1,000 ft² of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
 - ii) The permittee shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
 - iii) Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
 - iv) Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will

be no traffic on the roads. The permittee shall record a brief description of such events in the same log as the documented watering.

- v) The permittee shall record the date and the amount of water applied for each application on the above areas. The permittee shall retain these records with the plant for not less than five years, and the permittee shall make these records available to Department of Natural Resources' personnel upon request.

Recordkeeping:

1. The permittee shall retain records of all observation results (see Attachments D and E or equivalent forms generated by the permittee), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units and
 - b) All emission units from which visible emissions occurred.
2. The permittee shall retain records of any *Best Management Practices* performed in accordance with this permit condition.
3. These records shall be made available for inspection to the Department of Natural Resources' personnel upon request.
4. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 010	
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	
Emission Unit	Description
EP-15	Emergency Generator

Emission Limitations:

The permittee shall not cause or permit the emission into the atmosphere of gases containing more than 500 ppmv of SO₂ or more than 35 mg/m³ of H₂SO₄ or SO₃ or any combination of these gases averaged on any consecutive three-hour time period.

Operational Limitation:

This engine shall only burn diesel containing less than 0.05 percent sulfur.

Monitoring/Recordkeeping:

1. The permittee shall maintain fuel purchase receipts indicating the sulfur content of the diesel.
2. These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 011	
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	
Emission Unit	Description
EP-18B	Crucible Furnaces - Process
EP-19	Casting (Aluminum or Bronze)

Emission Limitations:

The permittee shall not cause or permit the emission into the atmosphere of gases containing more than 500 ppmv of SO₂ or more than 35 mg/m³ of H₂SO₄ or SO₃ or any combination of these gases averaged on any consecutive three-hour time period.

Monitoring/Recordkeeping:

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitation will never be exceeded. No further recordkeeping shall be required to demonstrate compliance with the emission limitations.
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources’ personnel upon request.
3. All records shall be kept for a period of five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program’s Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 012	
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	
Emission Unit	Description
EP-01	Boiler #1
EP-02	Boiler #2
EP-03	Boiler #3
EP-04	Boiler #4
EP-05	Boiler #5

Emission Limitations:

The permittee shall not cause or allow emissions of SO₂ into the atmosphere from any indirect heating source in excess of eight lb/MMBtu actual heat input averaged on any consecutive three-hour time period.

Monitoring/Recordkeeping:

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitation will never be exceeded. No further recordkeeping shall be required to demonstrate compliance with the emission limitations.
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be kept for a period of five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 013	
10 CSR 10-6.400 Restriction of Emission of PM From Industrial Processes	
Emission Unit	Description
EP-08	Waste Paper Grinder
EP-09	Pelletizer
EP-14B	Animal Waste Pelletizer

Emission Limitation:

1. The permittee shall not emit PM in excess of the limits given in the following table:

Emission Unit	Description	PM Emission Limit (lb/hr)
EP-08	Waste Paper Grinder	8.56
EP-09	Pelletizer	8.56
EP-14B	Animal Waste Pelletizer	8.56

2. The permittee shall not cause, allow, or permit the emission of PM from any source in a concentration in excess of 0.30 gr/dscf of exhaust gases.

Monitoring/Recordkeeping:

1. The permittee shall retain the potential to emit calculations in Attachment H which demonstrate that the above emission limitations will never be exceeded. No further recordkeeping shall be required to demonstrate compliance with the emission limitations.
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.
3. All records shall be kept for a period of five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.

2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 014	
10 CSR 10-6.405 Restriction of PM Emissions From Fuel Burning Equipment Used For Indirect Heating	
Emission Unit	Description
EP-01	Boiler #1
EP-02	Boiler #2
EP-03	Boiler #3
EP-04	Boiler #4
EP-05	Boiler #5
EP-20B	Wood-fired Clay Kiln

Emission Limitation:

1. The permittee shall not emit PM in excess of 0.38 lb/MMBtu from existing emission units: EP-01 Boiler #1, EP-02 Boiler #2, and EP-03 Boiler #3.
2. The permittee shall not emit PM in excess of 0.24 lb/MMBtu from new emission units: EP-04 Boiler #4, EP-05 Boiler #5, and EP-20B Wood-fired Clay Kiln.

Operational Limitation:

The permittee shall calibrate, maintain and operate the emission unit according to the manufacturer's specifications and recommendations.

Monitoring/Recordkeeping:

1. Attachment I contains calculations which demonstrate that these emission units will never exceed the emission limitations while combusting the specified fuel.
2. Records may be kept in either written or electronic form.
3. These records shall be made available immediately for inspection to Department of Natural Resources' personnel upon request.
4. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any of the terms imposed by this regulation, or any malfunction which could possibly cause an exceedance of this regulation.
2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the CFR, the CSR, and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following is only an excerpt from the regulation or code, and is provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

1. General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
2. Refer to the regulation for a complete list of allowances. The following is a listing of exceptions to the allowances:
 - a) Burning of household or domestic refuse. Burning of household or domestic refuse is limited to open burning on residential premises having not more than four dwelling units, provided that the refuse originates on the same premises.
 - b) Yard waste.
3. Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the permittee fails to comply with the conditions or any provisions of the permit.
4. The permittee may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least 200 yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if the permittee fails to comply with the provisions or any condition of the open burning permit.
 - a) In a nonattainment area, as defined in 10 CSR 10-6.020(2)(N)5., the director shall not issue a permit under this section unless the owner or operator can demonstrate to the satisfaction of the director that the emissions from the open burning of the specified material would be less than the emissions from any other waste management or disposal method.
5. Reporting and Recordkeeping. 40 CFR Part 60, Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in §60.2245 - §60.2260. The provisions of 40 CFR Part 60, Subpart CCCC promulgated as of September 22, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with §60.2245 - §60.2260, sources shall conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the director.
6. Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR Part 60, Appendix A – Test Methods, Method 9 – Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR Part 60, Appendix A, Method 9 promulgated as of December 23, 1971 is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

1. In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:
 - a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
2. The permittee shall submit the paragraph 1 information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
3. Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under §643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under §643.080 or §643.151, RSMo.
4. Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under §§643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
5. Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than 18 months. [10 CSR 10-

6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

**10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and
40 CFR Part 61, Subpart M - National Emission Standard for Asbestos**

1. The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M - *National Emission Standard for Asbestos*.
2. The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

1. The permittee shall submit full emissions report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director.
2. The permittee may be required by the director to file additional reports.
3. Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
4. The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. §643.079.
5. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the emissions report.
6. The permittee shall complete required reports on state supplied EIQ forms or electronically via MoEIS. Alternate methods of reporting the emissions can be submitted for approval by the director. The reports shall be submitted to the director by April 1 after the end of each reporting year. If the full emissions report is filed electronically via MoEIS, this due date is extended to May 1.
7. The reporting period shall end on December 31 of each calendar year. Each report shall contain the required information for each emission unit for the 12-month period immediately preceding the end of the reporting period.
8. The permittee shall collect, record, and maintain the information necessary to complete the required forms during each year of operation of the installation.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170 Restriction of PM to the Ambient Air Beyond the Premises of Origin

Emission Limitation:

1. The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive PM emissions to go beyond the premises of origin in quantities that the PM may be found on surfaces beyond the property line of origin. The nature or origin of the PM shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
2. The permittee shall not cause nor allow to occur any fugitive PM emissions to remain visible in the ambient air beyond the property line of origin.
3. Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

Monitoring:

1. The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.
2. The permittee shall maintain the following monitoring schedule:
 - a) The permittee shall conduct weekly observations for a minimum of eight consecutive weeks after permit issuance.
 - b) Should no violation of this regulation be observed during this period then-
 - i) The permittee may observe once every two weeks for a period of eight weeks.
 - ii) If a violation is noted, monitoring reverts to weekly.
 - iii) Should no violation of this regulation be observed during this period then-
 - (1) The permittee may observe once per month.
 - (2) If a violation is noted, monitoring reverts to weekly.
 - c) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

Recordkeeping:

1. The permittee shall document all readings on Attachment J, or its equivalent, noting the following:
 - a) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.

- b) Whether equipment malfunctions contributed to an exceedance.
- c) Any violations and any corrective actions undertaken to correct the violation.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

1. The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
2. The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
3. The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-6.165 Restriction of Emission of Odors

This requirement is not federally enforceable.

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.

- c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
- d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in 40 CFR Part 82, Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A - *Production and Consumption Controls*.
4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B - *Servicing of Motor Vehicle Air Conditioners*. The term "motor vehicle" as used in 40 CFR Part 82, Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in 40 CFR Part 82, Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.
5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program promulgated pursuant to 40 CFR Part 82, Subpart G - *Significant New Alternatives Policy Program*. 40 CFR Part 82 is only federally enforceable.

10 CSR 10-6.280 Compliance Monitoring Usage

1. The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
2. Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:

- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
3. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Recordkeeping and Reporting Requirements

1. Recordkeeping
 - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
 - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
2. Reporting
 - a) All reports shall be submitted to the Air Pollution Control Program's Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
 - b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semi-annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
 - c) Each report shall identify any deviations from emission limitations, monitoring, recordkeeping, reporting, or any other requirements of the permit, this includes deviations or 40 CFR Part 64 exceedances.
 - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in 10 CSR 10-6.065(6)(C)7.A shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semi-annual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under §112(r)

1. The permittee shall comply with the requirements of 40 CFR Part 68 - *Accidental Release Prevention Requirements*. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by §68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:
 - a) June 21, 1999;
 - b) Three years after the date on which a regulated substance is first listed under §68.130; or
 - c) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

1. The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
2. The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
3. The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
4. This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
5. The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The

permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

1. Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
2. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
3. All progress reports required under an applicable schedule of compliance shall be submitted semi-annually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
4. The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, as well as the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and 40 CFR Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
 - c) Whether compliance was continuous or intermittent;
 - d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and

- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

1. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The applicable requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
2. Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of §303 of the Act or §643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of EPA and the Air Pollution Control Program to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

1. An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
2. Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

1. An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable

permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

2. §502(b)(10) changes. Changes that, under §502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, the permittee shall provide advance written notice to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program as above at least seven days before the change is to be made. If less than seven days' notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

1. Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by Stacy Carrick, Vice President of Finance. If this person terminates employment, or is reassigned different duties such that a different

person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the permittee shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the permittee to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

1. This permit may be reopened for cause if:
 - a) The Missouri Department of Natural Resources receives notice from EPA that a petition for disapproval of a permit pursuant to §70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
 - b) The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
 - c) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - i) The permit has a remaining term of less than three years;
 - ii) The effective date of the requirement is later than the date on which the permit is due to expire; or
 - iii) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
 - d) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
 - e) The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

Attachment E
 Method 9 Observations

Opacity Emissions Observations								
Company					Observer			
Location					Observer Certification Date			
Date					Emission Unit			
Time					Control Device			
Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
SUMMARY OF AVERAGE OPACITY								
Set Number	Time				Opacity			
	Start	End		Sum	Average			

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____
 YES NO Signature of Observer

Attachment G
 10 CSR 10-6.260 Compliance Demonstration

Non-Indirect Heating Sources						
Emission Unit	MHDR (tph)	SO _x Emission Factor (lb/ton)	Potential SO ₂ Concentration (ppmv)	SO ₂ Concentration Limit (ppmv)	Potential SO ₃ Concentration (mg/m ³)	SO ₃ Concentration Limit (mg/m ³)
EP-18B	0.005	0.5	0.06	500	0.17	35
EP-19	0.005	0.02	0.003	500	0.007	35
Indirect Heating Sources						
Emission Unit	SO ₂ Emission Factor		Potential SO ₂ Emissions (lb/MMBtu)		SO ₂ Emission Limit (lb/MMBtu)	
EP-01	157S lb/1000 gal		2.09		8	
EP-02	157S lb/1000 gal		2.09		8	
EP-03	157S lb/1000 gal		2.09		8	
EP-04	2.28 lb/ton		0.19		8	
EP-05	0.09 lb/ton		0.008		8	

The SO_x emission factor for EP-18B Crucible Furnaces - Process was obtained from FIRE for Process SCC 30400219. A conversion factor of 1 ppmv SO₂ = 2,610 μg/m³ was taken from AP-42 Appendix A. EP-18B was listed as having a stack flowrate of 5,364 acfm at 258°F in the installation's 2011 EIQ.

The SO_x emission factor for EP-19 Casting (Aluminum or Bronze) was obtained from FIRE for Process SCC 30400114. A conversion factor of 1 ppmv SO₂ = 2,610 μg/m³ was taken from AP-42 Appendix A. EP-19 was listed in the application as sharing a stack with EP-18B.

The SO₂ emission factor for EP-01 Boiler #1, EP-02 Boiler #2, and EP-03 Boiler #3 was obtained from AP-42 Table 1.3-1. S represents the percent sulfur in the fuel. A heating value of 150 MMBtu/1000 gallons of residual oil was obtained from AP-42 Appendix A. The installation listed a maximum sulfur content of two percent in their Title V permit application. Note: only sulfur emissions from residual oil were calculated for these boilers as residual oil combustion results in higher sulfur emissions than natural gas combustion.

The SO₂ emission factors for EP-04 Boiler #4 and EP-05 Boiler #5 were obtained from stack testing conducted in January 2002. The heating value of the fuels combusted was obtained by taking the consumption rates of 2.16 tph and 3.1 tph, respectively, and dividing by the MHDRs of 26 MMBtu/hr and 35 MMBtu/hr, respectively.

Attachment H
 10 CSR 10-6.400 Compliance Demonstration

This attachment may be used to demonstrate that the listed emission units are in compliance with 10 CSR 10-6.400 *Restriction of Emission of PM From Industrial Processes*.

Allowable PM Emission Rate (E) for Process Weights (P) of less than or equal to 30 tph is calculated by:

$$E \text{ (lb/hr)} = 4.1(P)^{0.67}$$

Allowable PM E for P greater than 30 tph is calculated by:

$$E \text{ (lb/hr)} = 55(P)^{0.11} - 40$$

Potential PM Emission Rate = MHDR (tph) x Emission Factor (lb/ton)

$$\text{Potential PM Concentration} = \frac{\text{Potential PM Emission Rate (lb/hr)} \times 7000 \text{ (gr/lb)}}{\text{Stack Flowrate (scfm)} \times 60 \text{ (min/hr)}}$$

Uncontrolled Calculations

Emission Unit	Description	MHDR (tph)	Emission Factor (lb/ton)	Potential PM Emission Rate (lb/hr)	PM Emission Limit (lb/hr)	Potential PM Conc. (gr/scf)	PM Conc. Limit (gr/scf)
EP-08	Waste Paper Grinder	3	0.35	1.05	8.56	0.01	0.3
EP-09	Pelletizer	3	0.35	1.05	8.56	0.01	0.3
EP-14B	Animal Waste Pelletizer	3	0.61	1.83	8.56	0.02	0.3

The PM emission factor for EP-08 Waste Paper Grinder was obtained from FIRE for Process SCC 30700802. The Title V permit application listed this source as having a stack flowrate of 14,000 acfm at 70°F.

The PM emission factor for EP-09 Pelletizer was obtained from FIRE for Process SCC 30700802. The Title V permit application listed this source as having a stack flowrate of 14,000 acfm at 70°F.

The PM emission factor for EP-14B Animal Waste Pelletizer was obtained from Project 2000-08-002. The Title V permit application listed this source as having a stack flowrate of 12,000 acfm at 70°F.

Attachment I
 10 CSR 10-6.405 Compliance Demonstration

This attachment may be used to demonstrate that the listed emission units are in compliance with 10 CSR 10-6.405 *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*. Installation's Total Heat Input (Q) in mmBtu/hr:

Emission Unit	MHDR (mmBtu/hr)
EP-01	26
EP-02	26
EP-03	26
EP-04	26
EP-05	36
EP-13	11.21
EP-18A	0.435
EP-20A	0.55
EP-20B	0.3
Total Q	152.495

Allowable PM emission limitation for new indirect heating sources at an installation having a total capacity greater than 10 MMBtu/hr and less than 10,000 MMBtu/hr is calculated by the following equation: [10 CSR 10-6.405(3)(D)]

$$E = 0.90Q^{-0.174} \text{ lb/MMBtu}$$

$$E = 0.90(152.495)^{-0.174} \text{ lb/MMBtu} = 0.38 \text{ lb/MMBtu}$$

Emission Unit	Fuel	Emission Factor	Emission Factor (lb/MMBtu)	Emission Limit (lb/MMBtu)
EP-01	Fuel Oil #5	11.5 lb/1000 gal	0.08	0.38
EP-02				
EP-03				

The uncontrolled emission factor for EP-01 Boiler #1, EP-02 Boiler #2, and EP-03 Boiler #3 was obtained from FIRE for Process SCC 10300402. A residual oil heating value of 150 MMBtu/1000 gallons was obtained from AP-42 Appendix A. These emission units are in compliance within this regulation without the aid of a control device. Note: Only fuel oil #5 calculations are shown for these boilers as fuel oil #5 combustion results in higher PM emissions than natural gas combustion.

* * * * *

Allowable PM emission limitation for new indirect heating sources at an installation having a total capacity greater than 10 MMBtu/hr and less than 2,000 MMBtu/hr is calculated by the following equation: [10 CSR 10-6.405(3)(E)]

$$E = 1.31Q^{-0.338} \text{ lb/MMBtu}$$

$$E = 1.31(152.495)^{-0.338} \text{ lb/MMBtu} = 0.24 \text{ lb/MMBtu}$$

Emission Unit	Fuel	Emission Factor	Emission Factor (lb/MMBtu)	Emission Limit (lb/MMBtu)
EP-04	Paper Pellets/Animal Waste	2.74 lb/ton	0.23	0.24
EP-05	Wood Chips/Animal Waste	1.79 lb/ton	0.16	0.24
EP-20B	Wood	0.49 lb/ton	0.05	0.24

The emission factor for EP-04 Boiler #4 was obtained from stack testing conducted in January of 2002. The cyclone required by Permit Condition 001 was in use during the stack testing; therefore, this is a controlled emission factor. No uncontrolled emission factors were available for this calculation. The cyclone was listed as having a control efficiency of 87 percent within the Title V permit application. The heating value of the fuel combusted was obtained by taking the consumption rate of 2.16 tph and dividing by the MHDR of 26 MMBtu/hr. Back calculating using the 87 percent control efficiency, the uncontrolled emission factor for EP-04 Boiler #4 would be 1.75 lb/MMBtu. 40 CFR Part 64 *Compliance Assurance Monitoring* is not applicable. Although EP-04 must use a control device to meet the standard, combined annual PM emissions from EP-04 and EP-05 are limited to 15 tpy by Permit Condition 001 – below the 100 tpy major source threshold for PM.

The emission factor for EP-05 Boiler #5 was obtained from stack testing conducted in January of 2002. The wet scrubber required by Permit Condition 001 was in use during the stack testing; therefore, this is a controlled emission factor. No uncontrolled emission factors were available for this calculation. The wet scrubber was listed as having a control efficiency of 92.54 percent within the Title V permit application. The heating value of the fuel combusted was obtained by taking the consumption rate of 3.1 tph and dividing by the MHDR of 36 MMBtu/hr. Back calculating using the 92.54 percent control efficiency, the uncontrolled emission factor for EP-05 Boiler #5 would be 2.14 lb/MMBtu. 40 CFR Part 64 *Compliance Assurance Monitoring* is not applicable. Although EP-05 must use a control device to meet the standard, combined annual PM emissions from EP-04 and EP-05 are limited to 15 tpy by Permit Condition 001 – below the 100 tpy major source threshold for PM.

The uncontrolled emission factor for EP-20B Wood-fired Clay Kiln was obtained from FIRE for Process SCC 30500850. A wood heating value of 5,200 Btu/lb was obtained from AP-42 Appendix A. This emission unit is in compliance within this regulation without the aid of a control device.

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1. Part 70 Operating Permit Application, received March 12, 2013
2. 2011, 2010, 2009, 2008, and 2007 Emissions Inventory Questionnaires
3. U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition
4. U.S. EPA's Factor Information Retrieval System (FIRE)
5. Construction Permits 092003-008, 122002-008, 102000-029, 0792-038, and 0881-001

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

10 CSR 10-6.100 *Alternate Emission Limits* is not applicable because the installation is in an ozone attainment area.

Construction Permits

Construction Permit 092003-008, Issued August 13, 2003:

- ◆ This de minimis construction permit is for the installation of EP-06 Haul Road, EP-16 Pellet Storage Pile, and EP-17 Ash Storage Pile.
- ◆ This permit contains no special conditions.

Construction Permit 122002-008, Issued November 8, 2002:

- ◆ This de minimis construction permit is for the combustion of animal waste as an alternate fuel in EP-04 Boiler #4 and EP-05 Boiler #5.
- ◆ Special Conditions 1 – 3 have been applied within this permit (see Permit Condition 001).

Temporary Construction Permits 082001-012 and 022001-010:

- ◆ These temporary construction permits have all expired.

Construction Permit 102000-029, Issued October 4, 2000:

- ◆ This de minimis construction permit is for the addition of EP-14 Hammermill, EP-14A Mixer, and EP-14B Animal Waste Pelletizer.
- ◆ Special Condition 1 has been applied within this permit (see Permit Condition 002).

Construction Permit 0792-038, Issued July 28, 1992:

- ◆ This construction permit is for the retrofit of EP-04 Boiler #4 to allow for the combustion of pelletized recycled paper and wood chips and the installation of a paper baler, EP-08 Waste Paper Grinder, EP-09 Pelletizer, bucket elevator, fuel storage vessel, hopper, stoker, ash pit, ash removal augers, two-stage ash collector, and fuel and ash conveyor systems.

- ◆ Special Condition 1 – 3 have been applied within this permit (see Permit Condition 003).

Construction Permit 0881-001, Issued August 1, 1981:

- ◆ This construction permit is for the installation of EP-05 Boiler #5.
- ◆ Special Condition 1 was not included in this permit. This special condition requires one-time stack testing which has already been conducted.

Construction Permit 0679-001, Issued June 1, 1979:

- ◆ This construction permit is for the installation of an incinerator.
- ◆ The incinerator is no longer located at the facility; therefore, this construction permit is no longer applicable to the installation.

New Source Performance Standards Applicability

40 CFR Part 60, Subparts D, Da, and Db – *Standards of Performance for Steam Generating Units* are not applicable to the installation and have not been applied within this permit. All of the boilers at the installation are less than 100 MMBtu/hr.

40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* is applicable to the installation and has been applied within this permit (see Permit Condition 004). EP-04 Boiler #4 was modified in 1991 to combust paper pellets/wood chips becoming subject to this regulation. Boilers 1, 2, 3, and 5 are not subject to this regulation as they were constructed prior to June 9, 1989.

40 CFR Part 60, Subpart Kb – *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* is not applicable to the installation and has not been applied within this permit. All of the tanks at the installation are below the 75 m³ (19,812 gallon) threshold capacity of this regulation.

40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* is not applicable to the installation and has not been applied within this permit. EP-15 Emergency Generator is a 1976 model year, prior to the earliest model years subject to this regulation.

Maximum Achievable Control Technology Applicability

40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for HAP for Stationary Reciprocating Internal Combustion Engines* is not applicable to the installation and has not been applied within this permit. EP-15 Emergency Generator is an existing institutional emergency stationary RICE located at an area source of HAP emissions and does not have to meet the requirements of this regulation per §63.6590(b)(3)(viii).

40 CFR Part 63, Subpart CCCCCC – *National Emissions Standards for HAP for Source Category: Gasoline Dispensing Facilities* is applicable to the installation and has been applied within this permit (see Permit Condition 005).

40 CFR Part 63, Subpart JJJJJ – *National Emission Standards for HAP for Industrial, Commercial, and Institutional Boilers Area Sources* is applicable to the installation and has been applied within this permit (see Permit Condition 006).

40 CFR Part 63, Subpart RRRRRR – *National Emission Standards for HAP for Clay Ceramics Manufacturing Area Sources* is not applicable to the installation and has not been applied within this permit. The installation is not subject to this regulation as the definition of *clay ceramics manufacturing facility* within §63.11444 states: “For the purposes of this area source rule, the following types of facilities are not part of the regulated category: artisan potters, art studios, school and university ceramic arts programs, and any facility that uses less than 50 tpy of wet clay.”

National Emission Standards for Hazardous Air Pollutants Applicability

40 CFR Part 61, Subpart M – *National Emission Standards for Asbestos* is applicable to the installation and has been applied within this permit (see Section IV. Core Permit Requirements).

Compliance Assurance Monitoring Applicability

40 CFR Part 64 - *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.
-

40 CFR Part 64 is not applicable because none of the pollutant-specific emission units that use a control device to achieve compliance with a standard have pre-control emissions that are greater than or equal to the major source threshold.

Greenhouse Gas Emissions

This installation is currently a minor source of GHG due to the three year biogenic source deferral. Potential GHG emissions from the installation, excluding EP-04 Boiler #4, EP-05 Boiler #5, and EP-20B Wood-fired Clay Kiln which are fired with biogenic material, are 63,150.76 tpy.

Updated Potential to Emit for the Installation

Pollutant	Potential to Emit (tpy) ¹
CO	114.34
GHG	63,150.76
NO _x	172.75
PM	71.93
PM ₁₀	58.32
PM ₂₅	5.79
SO _x	744.43
VOC	22.28
HAP	11.54
Hydrogen Chloride (7647-01-0)	5.08
Formaldehyde (50-00-0)	1.20
Benzene (71-43-2)	1.12
Acrolein (107-02-8)	1.07
Hexane (110-54-3)	0.69
Styrene (100-42-5)	0.51
Manganese Compounds (20-12-2)	0.43
Lead Compounds (20-11-1)	0.29
Toluene (108-88-3)	0.25
Acetaldehyde (75-07-0)	0.22
Chlorine (7782-50-5)	0.21
Hydrogen Fluoride (7664-39-3)	0.21
Dichloromethane (75-09-2)	0.08
Naphthalene (91-20-3)	0.03
Propionaldehyde (123-38-6)	0.02
Phenol (108-95-2)	0.01
Polycyclic Organic Matter (TP15)	0.01

¹Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted:

- Emissions from EP-01 Boiler #1, EP-02 Boiler #2, and EP-03 Boiler #3 are based upon the worst-case fuel for each pollutant.
- Emissions from EP-04 Boiler #4 and EP-05 Boiler #5 were limited to 40 tpy NO_x and 15 tpy PM₁₀ per Permit Condition 001. The emissions from EP-04 Boiler #4 and EP-05 Boiler #5 were calculated using stack testing data from January 2002 – EP-04’s cyclone and EP-05’s wet scrubber were in use during the stack testing and are included in the calculated potential emissions.
- Annual emissions from EP-04 Boiler #4 were limited by the 7,999 tpy paper pellet combustion limit per Permit Condition 003.
- EP-15 Emergency Generator was evaluated at 500 hours of annual operation per EPA guidance.

Other Regulatory Determinations

10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants* is applicable to the installation and has been applied within this permit (see Permit Conditions 007, 008, and 009). EP-15 Emergency Generator is exempt from this regulation per 10 CSR 10-6.220(1)(A) as an internal combustion engine. EP-04 Boiler #4 is exempt from this regulation per 10 CSR 10-6.220(1)(H) as it is regulated under 10 CSR 10-6.070. The following emission units are subject to this regulation, but as potential PM emissions are less than 0.5 lb/hr, no further monitoring, recordkeeping, or reporting is required at this time:

Emission Unit	Description
EP-06	Haul Road
EP-13	Natural Gas Combustion – Small Heaters/Boilers
EP-14	Hammermill
EP-14A	Mixer
EP-16	Pellet Storage Pile
EP-18	Crucible Furnaces
EP-20A	Two Natural Gas-fired Clay Kilns
EP-20B	Wood-fired Clay Kiln
EP-21	Ceramic Glazing

10 CSR 10-6.260 *Restriction of Emission of Sulfur Compounds* is applicable to the installation and has been applied within this permit (see Permit Conditions 010, 011, and 012). EP-13 Natural Gas Combustion – Small Heaters/Boilers, EP-18A Crucible Furnaces – Natural Gas Combustion, and EP-20A Two Natural Gas-fired Clay Kilns are exempt from this regulation per 10 CSR 10-6.260(1)(A)2 as they exclusively combust pipeline grade natural gas. EP-20B Wood-fired Clay Kiln is exempt from this regulation per 10 CSR 10-6.260(1)(C) as it is an indirect heating sources less than 0.35 MMBtu/hr.

10 CSR 10-6.400 *Restriction of Emission of PM From Industrial Processes* is applicable to the installation and has been applied within this permit (see Permit Condition 013). The following emission units are exempt from this regulation per 10 CSR 10-6.400(1)(B)6 as they burn fuel for indirect heating:

Emission Unit	Description
EP-01	Boiler #1
EP-02	Boiler #2
EP-03	Boiler #3
EP-04	Boiler #4
EP-05	Boiler #5
EP-13	Natural Gas Combustion - Small Heaters/Boilers
EP-18A	Crucible Furnaces - Natural Gas Combustion
EP-20A	Two Natural Gas-fired Clay Kilns
EP-20B	Wood-fired Clay Kiln

The following emission units are exempt from this regulation per 10 CSR 10-6.400(1)(B)12 as they have potential PM emissions of less than 0.5 lb/hr:

Emission Unit	Description	MHDR	PM Emission Factor	Emission Factor Source	Potential PM Emissions (lb/hr)
EP-14	Hammermill	1.5 tph	0.034 lb/ton	Project 2000-08-002	0.05
EP-14A	Mixer	1.5 tph	0.017 lb/ton		0.03
EP-18B	Crucible Furnaces – Process	0.005 tph	1.9 lb/ton	FIRE Process SCC 30400102	0.11
		0.005 tph	21 lb/ton	FIRE Process SCC 30400219	
EP-20C	Clay Kilns – Process	0.10035 tph	0.067 lb/ton	FIRE Process SCC 30500856	0.01
EP-21	Ceramic Glazing	0.02 tph	19 lb/ton	FIRE Process SCC 30500845	0.38

The following emission units are exempt per 10 CSR 10-6.400(1)(B)7 as fugitive emission sources:

Emission Unit	Description
EP-06	Haul Road
EP-07	Wood Chip Storage Pile
EP-16	Pellet Storage Pile
EP-17	Ash Storage Pile

EP-15 Emergency Generator combusts diesel which does not meet the definition of *process weight*. The definition of *process weight* in 10 CSR 10-6.400(2)(A) excludes “liquids and gases used solely as fuels and air introduced for purposes of combustion.”

10 CSR 10-6.405 *Restriction of PM Emissions From Fuel Burning Equipment Used For Indirect Heating* is applicable to the installation and has been applied within this permit (see Permit Conditions 014 and 015). EP-13 Natural Gas Combustion – Small Heaters/Boilers, EP-18A Crucible Furnaces – Natural Gas Combustion, and EP-20A Two Natural Gas-fired Clay Kilns are deemed in compliance with this regulation per 10 CSR 10-6.405(1)(C) as they are fueled by natural gas.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

Prepared by:

Alana L. Rugen, EIT
Environmental Engineer II

Ms. Stacy Carrick
Northwest Missouri State University
800 University Drive
Maryville, MO 64468-6015

Re: Northwest Missouri State University, 147-0005
Permit Number: **OP2013-051**

Dear Ms. Carrick:

Enclosed with this letter is your Part 70 operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo §643.078.16 and §621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you have any questions or need additional information regarding this permit, please do not hesitate to contact Alana Rugen at the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Michael J. Stansfield, P.E.
Operating Permit Unit Chief

MJS:ark

Enclosures

c: Kansas City Regional Office
PAMS File: 2013-03-037

Mr. Mark A. Smith
Air Permitting and Compliance Branch Chief
EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219

RE: Part 70 Operating Permit, Project: 2013-03-037
Response to Comments

Dear Mr. Smith,

The Missouri Air Pollution Control Program has received comments from EPA and Heider Environmental Consulting submitted during the public comment period on the draft Part 70 Operating Permit for Northwest Missouri State University (147-0005). The Air Pollution Control Program has revised the draft operating permit in response to the comments. Enclosed are the Air Pollution Control Program's responses to the comments. The Title V permit is being forwarded for final executive approval and issuance.

If you have any questions or additional comments, please do not hesitate to contact me at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 526-0189. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Alana L. Rugen, EIT
Environmental Engineer II

ALR/kjc

Enclosures: Final Title V Operating Permit
Response to Comments

c: Kansas City Regional Office
PAMS File: 2013-03-037

MEMORANDUM

DATE: May 21, 2013

TO: 2013-03-037, Northwest Missouri State University (147-0005)

FROM: Alana L. Rugen, EIT
Environmental Engineer II

SUBJECT: Response to Comments

The draft Part 70 Operating Permit for Northwest Missouri State University (147-0005) was placed on public notice as of April 17, 2013, for a 30-day comment period. The public notice was published on the Department of Natural Resources' Air Pollution Control Program's web page at: <http://www.dnr.mo.gov/env/apcp/PermitPublicNotices.htm> on Wednesday, April 17, 2013.

On April 17, 2013, the Air Pollution Control Program received comments from Curtis Heider of Heider Environmental Consulting the comments will be addressed first within this Response to Comments document.

On May 14, 2013, the Air Pollution Control Program received comments from EPA Region 7's Mark A. Smith, Air Permitting and Compliance Branch Chief, the comments will be addressed second within this Response to Comments document.

Heider Environmental Consulting Comment #1:

On page 5 of the draft permit, under "Emission Units Without Limitations", for EP-11, in addition to the tanks already listed, add a 15,000 gallon tank.

Missouri Air Pollution Control Program Response to Comment #1:

Further correspondence with Mr. Curtis Heider identified this tank as a 15,000 gallon fuel oil #5 storage tank. The tank is below the 19,812 gallon threshold of 40 CFR Part 60, Subpart Kb; therefore, the tank was added to the permit as an emission unit without limitation as requested.

Heider Environmental Consulting Comment #2:

On page 24 of the draft permit, under “Emission Limitation”, EP-04 Boiler #4 should be listed with the indirect heating units in #1 having the 0.38 lb/MMBtu limit, while EP-05 Boiler #5 should be listed with the indirect heating units in #2 having the 0.24 lb/MMBtu limit. The same change needs to be made in Attachment I (page 46 & 47), with Boilers #4 and #5 switched.

Missouri Air Pollution Control Program Response to Comment #2:

EP-05 Boiler #5 was constructed in 1981 and is a new emission unit; therefore, this change has been made as requested. EP-04 Boiler #4 was reconstructed in 1992 and is a new emission unit.

EPA Comment #1:

First, the draft Part 70 operating permit includes three separate permit conditions; Permit Condition 007, Permit Condition 008, and Permit Condition 009, to incorporate the requirements associated with 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*. Permit Condition 007 is written to cover EP-01, EP-02, and EP-03; Permit Condition 008 covers EP-05, EP-08, EP-09, and EP-14B; and Permit Condition 009 covers EP-07 and EP-17. There is no permit condition to address the emission of visible air contaminants from EP-04; however, the Statement of Basis indicates that EP-04 is exempt as it is regulated under 10 CSR 10-6.070.

10 CSR 10-6.070 therefore subjects EP-04 to 40 CFR Part 60, Subpart Dc – *Standards of Performance for Small-Industrial-Commercial-Institutional Steam Generating Units*. §60.40c says the affected facilities include steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989 with a heat input capacity of 10 to 100 MMBtu/hr and are subject to SO₂ and PM emission limits except for:

- Periods of combustion research;
- Temporary changes to existing steam generating units for the purpose of conducting combustion research;
- Affected facilities associated with stationary combustion turbines and meet the applicability of 40 CFR Part 60, Subpart KKKK;
- Affected facilities that meet the applicability requirements of 40 CFR Part 60, Subparts AAAA or CCCC;
- Facilities that meet the applicability requirements and are subject to an EPA approved State or Federal §111(d)/129 plan implementing 40 CFR Part 60, Subpart BBBB; and

- Temporary boilers.

Permit Condition 004 is incorporated into this draft Part 70 operating permit to capture the requirements associated with 40 CFR Part 60, Subpart Dc. There is no indication that EP-04 meets any of the exemptions of §60.40c and the standards for SO₂ and PM are not included in the permit condition.

Therefore, EPA recommends MDNR include the applicable SO₂ and PM limits within Permit Condition 004.

Missouri Air Pollution Control Program Response to EPA Comment #1:

The SO₂ limits within 40 CFR Part 60, Subpart Dc only apply to boilers combusting coal, oil, and coal/oil with other fuels. This boiler combust none of these fuels; therefore, there is no SO₂ limit to apply.

The PM limits within 40 CFR Part 60, Subpart Dc only apply to boilers combusting coal, oil, woods, and coal/oil/wood with other fuels. This boiler combusts animal waste and paper pellets. It was unclear if paper pellets met the definition of wood in §60.41c. Previous operating permits for the installation did not apply the wood standards; therefore, the wood standards were not applied within this operating permit either.

EPA Comment #2:

Second, Permit Condition 003 is incorporated into this operating permit to capture the special conditions and requirements derived from Construction Permit 0792-038. This construction permit allowed Northwest Missouri State University to retrofit/convert an existing gas/oil fired boiler to paper/wood fuel. This fuel conversion resulted in a derating of EP-04 from “about 50 MMBtu/hr heat input to 28.5 MMBtu/hr heat input.” The construction permit indicates that the PTE at the existing facility in 1992 is greater than 250 tpy. Therefore, the construction permit condition restricting the permittee to the combustion of paper pellets/wood chips, in EP-04, to less than 7,999 tons per consecutive 12-month period was to limit CO emission to less than 99.9 tpy and avoid going through PSD analysis. However, nowhere in this operating permit is this 99.9 tpy CO limit included.

Therefore, EPA recommends that MDNR consider whether or not all of the applicable conditions of Construction Permit 0792-038 have been included in the operating permit.

Missouri Air Pollution Control Program Response to EPA Comment #2:

Special Condition 1 of Construction Permit 0792-038 was already incorporated into the permit in Permit Condition 003; therefore, no changes are necessary.

Construction Permit 0792-038 was issued July 28, 1992. On November 8, 2002 the installation received Construction Permit 122002-008 which allowed for the combustion of animal waste in EP-04 Boiler #4. 122002-008 allowed a combustion ratio of 40 percent animal waste to 60 percent paper pellets.

EPA Comment #3:

Third, Construction Permit 0881-001 indicates in the engineering analysis that “this source EP-05 is a 65 MMBtu/hr boiler which will burn wood chips.” It goes on to say that “this boiler will replace four gas and oil-fired boilers. These boilers will remain in service, but no more than two boilers, including the new boiler, will be in service at one time.” It appears that this boiler operating restriction scenario has been overlooked in previous operating permits, but it would appear that this operating restriction is a condition of a valid construction permit and should be included in the operating permit and EPA recommends that MDNR review Construction Permit 0881-001 and include all conditions as operating permit requirements.

Additionally, there appears to be a slight discrepancy in the boiler heat input values included in the draft operating permit and the previously issued construction permits. The draft Part 70 operating permit indicated, in Permit Condition 006, the MHDR of EP-01 at 26 MMBtu/hr, EP-02 at 26 MMBtu/hr, EP-03 at 26 MMBtu/hr, EP-04 at 26 MMBtu/hr, and EP-05 at 35 MMBtu/hr. However, the general description in Construction Permit 0792-038 says “prior to 1980, Northwest Missouri State University installed four gas/oil-fired boilers that could produce 50,000 pounds of steam per hour.” This seems to suggest that EP-01, EP-02, EP-03, and EP-04 could each produce 50,000 pounds of steam per hour. A boiler generating 50,000 pounds of steam per hour is likely to have an MHDR of more than 26 MMBtu/hr. This is substantiated in the general description where it says “conversion of EP-04 from gas/oil to paper/wood fuel will result in a derating of the boiler from about 50 MMBtu/hr heat input to 28.5 MMBtu/hr heat input.” Also, there is an indication in Construction Permit 0881-001 that EP-05 has an MHDR of 65 MMBtu/hr.

EPA suggests that MDNR review the boiler MHDRs specified in valid construction permits against those specified in the draft operating permit and modify the permits accordingly.

Missouri Air Pollution Control Program Response to EPA Comment #3:

The two construction permits EPA is referring to, 0881-001 and 0792-038, were issued in 1981 and 1992 respectively.

In Construction Permit 122002-008 Boiler #5 is rated at 35 MMBtu/hr. Facilities do not always construct exactly what they are permitted to construct. In this instance, the installation was permitted to install a 65 MMBtu/hr wood-fired boiler, but instead only installed a 35 MMBtu/hr boiler. An MHDR of 35 MMBtu/hr for EP-05 is consistent with the installation’s previous operating permit, the installation’s Part 70 operating permit renewal application, and the installation’s 2012 EIQ.

Construction Permit 122002-008 lists Boiler #4 as 26 MMBtu/hr. An MHDR of 26 MMBtu/hr for EP-04 is consistent with the installation’s previous operating permit, the installation’s Part 70 operating permit renewal application, and the installation’s 2012 EIQ.

Construction Permit 0792-038 does not state that each of the existing four boilers can produce 50,000 lb/hr of steam nor does it state that all four boilers are identical in size. The 50,000 lb/hr of steam is for all four boilers combined.

An MHDR of 26 MMBtu/hr for EP-01, EP-02, and EP-03 is consistent with the installation’s previous operating permit, the installation’s Part 70 operating permit renewal application, and the installation’s 2012 EIQ.

EPA Comment #4:

Fourth, the emission limitations and management practices incorporated under Permit Condition 005 includes #3 which says “Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.” Based on review of 40 CFR Part 63, Subpart CCCCCC, this statement does not appear to be included in the permit condition. EPA suggests that MDNR reword these emission limitations and management practices to eliminate #3 as stated. A suggested alternative might be to say “the permittee shall limit their monthly gasoline throughput to less than 10,000 gallons.”

Missouri Air Pollution Control Program Response to EPA Comment #4:

40 CFR Part 63, Subpart CCCCCC is a tiered standard. The installation uses less than 10,000 gallons of gasoline in a month and; therefore, must meet the requirements for that tier of the standard which are contained in §63.11116. The installation is not limited to 10,000 gallons per month under the standard; however, the installation must go to the next tier of standards if they use more than 10,000 gallons per month (§63.11117 or §63.11118). No change is necessary.

EPA Comment #5:

Finally, some of the pollutant values shown in the table of updated PTE for the installation in the Statement of Basis are different than the installation PTE specified in issued construction permits. Construction Permit 0792-038 identifies the existing facility PTE in tons per year, along with the net emission change associated with the project. Additionally, Construction Permits 102000-029, 122002-008, and 092003-008 all have net increases which are shown in the following table and the total PTE’s shown are different.

Pollutant	Existing Facility PTE as of 1992 (tpy)	Construction Permit 0792-038 Additional PTE (tpy)	Construction Permit 102000-029 Additional PTE (tpy)	Construction Permit 122002-008 Additional PTE (tpy)	Construction Permit 092003-008 Additional PTE (tpy)	Total PTE (tpy)
SO ₂	283.3	0.6	-	22.79	-	306.69
PM	92	4.6	10.04	28.35	3.71	138.70
CO	401.3	99.9	-	110.49	-	611.69
VOC	41.8	6.8	-	10.21	-	58.81
NO _x	72.8	2.7	-	101.04	-	176.54

EPA recommends MDNR review the installation's PTE and balance the values such that the operating permit reflects the values in the approved construction permits.

Missouri Air Pollution Control Program Response to EPA Comment #5:

Emission factors in AP-42 have been updated and stack testing has been conducted at the installation since the issuance of these permits; therefore, variances between these values and the values in the operating permit are expected. Below are tables containing the PTE calculations upon which the Part 70 operating permit is based.

Emission Point	Description	MHDR	CO Emission Factor	Source	PTE (lb/hr)	PTE (tpy)	Notes
EP-01	Boiler #1 (Fuel Oil #5)	0.17333 Mgal	5 lb/Mgal	FIRE 10300402	0.87	-	< Natural Gas
	Boiler #1 (Natural Gas)	0.02529 MMscf	84 lb/MMscf	FIRE 10300602	2.12	9.31	
EP-02	Boiler #2 (Fuel Oil #5)	0.17333 Mgal	5 lb/Mgal	FIRE 10300402	0.87	-	< Natural Gas
	Boiler #2 (Natural Gas)	0.02529 MMscf	84 lb/MMscf	FIRE 10300602	2.12	9.31	
EP-03	Boiler #3 (Fuel Oil #5)	0.17333 Mgal	5 lb/Mgal	FIRE 10300402	0.87	-	< Natural Gas
	Boiler #3 (Natural Gas)	0.02529 MMscf	84 lb/MMscf	FIRE 10300602	2.12	9.31	
EP-04	Boiler #4 (Animal Waste/Paper Pellets)	2.16 tons	5.55 lb/ton	Stack Testing - January 2002	11.99	22.20	Limited to 7,999 tpy of paper pellets
EP-05	Boiler #5 (Animal Waste/Wood Chips)	3.1 tons	4.27 lb/ton	Stack Testing - January 2002	13.24	57.98	
EP-13	Natural Gas Combustion - Small Heaters/Boilers	0.0109 MMscf	84 lb/MMscf	FIRE 10300603	0.92	4.01	
EP-15	Emergency Generator	0.0136 Mgal	130 lb/Mgal	FIRE 20300101	1.77	0.44	Emergency 500 hr/yr
EP-18	Crucible Furnaces	0.00042 MMscf	84 lb/MMscf	FIRE 10300603	0.04	0.16	
EP-20	Two Natural Gas-fired Clay Kilns	0.00054 MMscf	84 lb/MMscf	FIRE 10300603	0.05	0.20	
	Wood-fired Clay Kiln	0.1 tons	3.3 lb/ton	FIRE 30500850	0.33	1.45	
Installation CO PTE (tpy):						114.34	

Emission Point	Description	MHDR	PM Emission Factor	EF Source	PTE (lb/hr)	PTE (tpy)	Notes
EP-01	Boiler #1 (Fuel Oil #5)	0.17333 Mgal	11.5 lb/Mgal	FIRE 10300402	1.99	8.73	
	Boiler #1 (Natural Gas)	0.02529 MMscf	7.6 lb/MMscf	FIRE 10300602	0.19	-	< Fuel Oil
EP-02	Boiler #2 (Fuel Oil #5)	0.17333 Mgal	11.5 lb/Mgal	FIRE 10300402	1.99	8.73	
	Boiler #2 (Natural Gas)	0.02529 MMscf	7.6 lb/MMscf	FIRE 10300602	0.19	-	< Fuel Oil
EP-03	Boiler #3 (Fuel Oil #5)	0.17333 Mgal	11.5 lb/Mgal	FIRE 10300402	1.99	8.73	
	Boiler #3 (Natural Gas)	0.02529 MMscf	7.6 lb/MMscf	FIRE 10300602	0.19	-	< Fuel Oil
EP-04	Boiler #4 (Animal Waste/Paper Pellets)	2.16 tons	2.74 lb/ton	Stack Testing - January 2002	5.92	15.0	Limited to 15.0 tpy Controls in operation during stack test
EP-05	Boiler #5 (Animal Waste/Wood Chips)	3.1 tons	1.79 lb/ton	Stack Testing - January 2002	5.55		
EP-06	Wood Chip, Waste Paper, and Ash Hauling	0.1902 VMT	2.2404 lb/VMT	2011 EIQ Haul Road Worksheet	0.43	1.87	
EP-07	Wood Chip Storage Pile	0.00008 acres	162.64 lb/acre-yr	2011 EIQ Storage Pile Worksheet	0.01	0.06	
		15 tons	0.0591 lb/ton	2011 EIQ Storage Pile Worksheet	0.89	3.88	
EP-08	Waste Paper Grinder	3 tons	0.35 lb/ton	FIRE 30700802	1.05	4.60	
EP-09	Pelletizer	3 tons	0.35 lb/ton	FIRE 30700802	1.05	4.60	
EP-13	Natural Gas Combustion - Small Heaters/Boilers	0.0109 MMscf	7.6 lb/MMscf	FIRE 10300603	0.08	0.36	
EP-14	Hammermill	1.5 tons	0.034 lb/ton	Project 2000-08-002	0.05	0.22	
EP-14A	Mixer	1.5 tons	0.017 lb/ton	Project 2000-08-002	0.03	0.11	
EP-14B	Animal Waste Pelletizer	3 tons	0.61 lb/ton	Project 2000-08-002	1.83	8.02	
EP-15	Emergency Generator	0.0136 Mgal	42.5 lb/Mgal	FIRE 20300101	0.58	0.14	Emergency 500 hr/yr
EP-16	Pellet Storage Pile (inside Pelletizing Plant building)	0.11 acres	0.08917 lb/acre-yr	Project 2003-05-050	0.01	0.04	
		3 tons	0.08284 lb/ton	2011 EIQ Storage Pile Worksheet	0.25	1.09	
EP-17	Ash Storage Pile (from combustion of paper pellets & wood chips)	0.07 acres	4.4583 lb/acre-yr	Project 2003-05-050	0.31	1.37	
		0.15 tons	2.9504 lb/ton	Project 2003-05-050	0.44	1.94	
EP-18	Crucible Furnaces – Natural Gas Combustion	0.00042 MMscf	7.6 lb/MMscf	FIRE 10300603	0.00	0.01	
	Crucible Furnaces - Aluminum	0.005 tons	1.9 lb/ton	FIRE 30400102	0.01	0.04	
	Crucible Furnaces - Bronze	0.005 tons	21 lb/ton	FIRE 30400219	0.11	0.46	
EP-20	Clay Kilns - Process	0.10035 tons	0.067 lb/ton	FIRE 30500856	0.01	0.03	
	Clay Kilns – Natural Gas Combustion	0.00054 MMscf	7.6 lb/MMscf	FIRE 10300603	0.00	0.02	
	Clay Kiln – Wood Combustion	0.1 tons	0.49 lb/ton	FIRE 30500850	0.05	0.21	
EP-21	Ceramic Glazing	0.02 tons	19 lb/ton	FIRE 30500845	0.38	1.66	
Installation PM PTE (tpy):						71.93	

Emission Point	Description	MHDR	NO _x Emission Factor	Source	PTE (lb/hr)	PTE (tpy)	Notes
EP-01	Boiler #1 (Fuel Oil #5)	0.17333 Mgal	55 lb/Mgal	FIRE 10300402	9.53	41.76	
	Boiler #1 (Natural Gas)	0.02529 MMscf	100 lb/MMscf	FIRE 10300602	2.53	-	< Fuel Oil
EP-02	Boiler #2 (Fuel Oil #5)	0.17333 Mgal	55 lb/Mgal	FIRE 10300402	9.53	41.76	
	Boiler #2 (Natural Gas)	0.02529 MMscf	100 lb/MMscf	FIRE 10300602	2.53	-	< Fuel Oil
EP-03	Boiler #3 (Fuel Oil #5)	0.17333 Mgal	55 lb/Mgal	FIRE 10300402	9.53	41.76	
	Boiler #3 (Natural Gas)	0.02529 MMscf	100 lb/MMscf	FIRE 10300602	2.53	-	< Fuel Oil
EP-04	Boiler #4 (Animal Waste/Paper Pellets)	2.16 tons	3.82 lb/ton	Stack Testing - January 2002	8.25	40.0	Limited to 40.0 tpy
EP-05	Boiler #5 (Animal Waste/Wood Chips)	3.1 tons	4.78 lb/ton	Stack Testing - January 2002	14.82		
EP-13	Natural Gas Combustion - Small Heaters/Boilers	0.0109 MMscf	100 lb/MMscf	FIRE 10300603	1.09	4.77	
EP-15	Emergency Generator	0.01360 Mgal	604 lb/Mgal	FIRE 20300101	8.22	2.05	Emergency 500 hr/yr
EP-18	Crucible Furnaces	0.00042 MMscf	100 lb/MMscf	FIRE 10300603	0.04	0.19	
EP-19	Casting (Aluminum or Bronze)	0.005 tons	0.01 lb/ton	FIRE 30400114	0.00	0.00	
EP-20	Two Natural Gas-fired Clay Kilns	0.00054 MMscf	100 lb/MMscf	FIRE 10300603	0.05	0.24	
	Wood-fired Clay Kiln	0.1 tons	0.54 lb/ton	FIRE 30500850	0.05	0.24	
Installation NO_x PTE (tpy):						172.75	

Emission Point	Description	MHDR	SO _x Emission Factor	EF Source	PTE (lb/hr)	PTE (tpy)	Notes
EP-01	Boiler #1 (Fuel Oil #5)	0.17333 Mgal	159S lb/Mgal	AP-42 Table 1.3-1	55.12	241.43	2% Sulfur per Title V application
	Boiler #1 (Natural Gas)	0.02529 MMscf	0.6 lb/MMscf	FIRE 10300602	0.02	-	< Fuel Oil
EP-02	Boiler #2 (Fuel Oil #5)	0.17333 Mgal	159S lb/Mgal	AP-42 Table 1.3-1	55.12	241.43	2% Sulfur per Title V application
	Boiler #2 (Natural Gas)	0.02529 MMscf	0.6 lb/MMscf	FIRE 10300602	0.02	-	< Fuel Oil
EP-03	Boiler #3 (Fuel Oil #5)	0.17333 Mgal	159S lb/Mgal	AP-42 Table 1.3-1	55.12	241.43	2% Sulfur per Title V application
	Boiler #3 (Natural Gas)	0.02529 MMscf	0.6 lb/MMscf	FIRE 10300602	0.02	-	< Fuel Oil
EP-04	Boiler #4 (Animal Waste/Paper Pellets)	2.16 tons	2.28 lb/ton	Stack Testing - January 2002	4.92	9.12	Limited to 7,999 tpy of paper pellets
EP-05	Boiler #5 (Animal Waste/Wood Chips)	3.1 tons	0.09 lb/ton	Stack Testing - January 2002	0.28	1.22	
EP-13	Natural Gas Combustion - Small Heaters/Boilers	0.0109 MMscf	0.6 lb/MMscf	FIRE 10300603	0.01	0.03	
EP-15	Emergency Generator	0.0136 Mgal	39.7 lb/Mgal	FIRE 20300101	0.54	0.13	Emergency 500 hr/yr
EP-18	Crucible Furnaces - Fuel Combustion	0.00042 MMscf	0.6 lb/MMscf	FIRE 10300603	0.00	0.00	
	Crucible Furnaces - Process	0.005 tons	0.5 lb/ton	FIRE 30400219	0.00	0.01	
EP-19	Casting (Aluminum or Bronze)	0.005 tons	0.02 lb/ton	FIRE 30400114	0.00	0.00	
EP-20	Two Natural Gas-fired Clay Kilns	0.00054 MMscf	0.6 lb/MMscf	FIRE 10300603	0.00	0.00	
	Wood-fired Clay Kiln	0.1 tons	22 lb/ton	AP-42 Table 11.7-2	2.20	9.64	
Installation SO_x PTE (tpy):						744.43	

Emission Point	Description	MHDR	VOC Emission Factor	Source	PTE (lb/hr)	PTE (tpy)	Notes
EP-01	Boiler #1 (Fuel Oil #5)	0.17333 Mgal	1.13 lb/Mgal	FIRE 10300402	0.20	0.86	
	Boiler #1 (Natural Gas)	0.02529 MMscf	5.5 lb/MMscf	FIRE 10300602	0.14	-	< Fuel Oil
EP-02	Boiler #2 (Fuel Oil #5)	0.17333 Mgal	1.13 lb/Mgal	FIRE 10300402	0.20	0.86	
	Boiler #2 (Natural Gas)	0.02529 MMscf	5.5 lb/MMscf	FIRE 10300602	0.14	-	< Fuel Oil
EP-03	Boiler #3 (Fuel Oil #5)	0.17333 Mgal	1.13 lb/Mgal	FIRE 10300402	0.20	0.86	
	Boiler #3 (Natural Gas)	0.02529 MMscf	5.5 lb/MMscf	FIRE 10300602	0.14	-	< Fuel Oil
EP-04	Boiler #4 (Animal Waste)	0.864 tons	2 lb/ton	FIRE 10301201	1.83	8.00	40% animal waste to 60% paper pellets firing ratio
	Boiler #4 (Paper Pellets)	26 MMBtu	0.017 lb/MMBtu	FIRE 10300903	0.44	1.94	Limited to 7,999 tpy of paper pellets
EP-05	Boiler #5 (Animal Waste)	1.24 tons	2 lb/ton	FIRE 10301201	6.20	27.16	
	Boiler #5 (Wood Chips)	35 MMBtu	0.017 lb/MMBtu	FIRE 1300903	0.60	2.61	
EP-10	Gasoline Storage Tanks	5.87 Mgal	30.5 lb/Mgal-yr	FIRE 40301001	0.02	0.08	
	Gasoline Storage Tanks	0.016 Mgal	10 lb/Mgal	FIRE 40301007	0.16	0.70	
EP-11	Oil Storage Tanks	21.53 Mgal	0.4 lb/Mgal-yr	FIRE 40301019	0.00	0.00	
	Oil Storage Tanks	0.52 Mgal	0.02 lb/Mgal	FIRE 40301021	0.00	0.00	
EP-12	Parts Cleaners	0.025 gal	6.67 lb/gal	Title V Application	0.17	0.73	
EP-13	Natural Gas Combustion - Small Heaters/Boilers	0.0109 MMscf	5.5 lb/MMscf	FIRE 10300603	0.06	0.26	
EP-15	Emergency Generator	0.0136 Mgal	49.3 lb/Mgal	FIRE 20300101	0.67	0.17	Emergency 500 hr/yr
EP-18	Crucible Furnaces	0.00042 MMscf	5.5 lb/MMscf	FIRE 10300603	0.00	0.01	
EP-19	Casting (Aluminum or Bronze)	0.005 tons	0.14 lb/ton	FIRE 30400114	0.00	0.00	
EP-20	Two Natural Gas-fired Clay Kilns	0.00054 MMscf	5.5 lb/MMscf	FIRE 10300603	0.00	0.01	
	Wood-fired Clay Kiln	0.1 tons	0.43 lb/ton	FIRE 30500850	0.04	0.19	
Installation VOC PTE (tpy):						22.28	

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