



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: OP2008-042
Expiration Date: SEP 15 2013
Installation ID: 147-0005
Project Number: 2006-06-093

Installation Name and Address

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

Parent Company's Name and Address

Northwest Missouri State University
800 University Drive
Maryville, MO 64468

Installation Description:

Northwest Missouri State University operates five boilers. Three boilers burn natural gas and two boilers have been modified to burn wood chips and paper/animal waste pellets. The paper/animal waste pellets are manufactured on site. The facility also operates several small boilers and cooling units. The fuel oil storage tanks have been removed.

SEP 16 2008

Effective Date

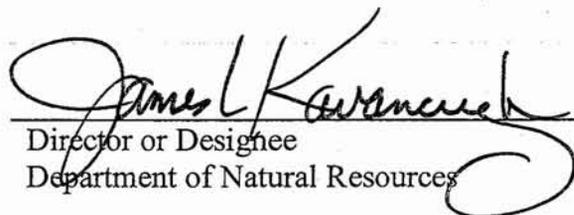

Director or Designee
Department of Natural Resources

Table of Contents

I. INSTALLATION DESCRIPTION AND EQUIPMENT LISTING	4
INSTALLATION DESCRIPTION	4
EMISSION UNITS WITH LIMITATIONS	4
EMISSION UNITS WITHOUT LIMITATIONS.....	4
DOCUMENTS INCORPORATED BY REFERENCE.....	5
II. PLANT WIDE EMISSION LIMITATIONS.....	6
III. EMISSION UNIT SPECIFIC EMISSION LIMITATIONS	7
EU0010 THROUGH EU0030 BOILERS	7
PERMIT CONDITION (EU0010 through EU0030)-001	7
10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating	7
PERMIT CONDITION (EU0010 through EU0030)-002	7
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	7
EU0040 - BOILER	10
PERMIT CONDITION EU0040-001.....	10
10 CSR 10-6.070 New Source Performance Regulations	10
40 CFR Part 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	10
PERMIT CONDITION EU0040-002.....	10
10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating	10
PERMIT CONDITION EU0040-003.....	11
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	11
PERMIT CONDITION EU0040-004.....	12
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds	12
PERMIT CONDITION EU0040-005.....	13
10 CSR 10-6.060 Construction Permits Required.....	13
Construction Permit No. 0792-038, Issued July 28, 1992.....	13
Construction Permit 122002-008, Issued November 8, 2002	13
EU0050 - BOILER	15
PERMIT CONDITION EU0050-001.....	15
10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating	15
PERMIT CONDITION EU0050-002.....	15
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	15
PERMIT CONDITION EU0050-003.....	17
10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds	17
PERMIT CONDITION EU0050-004.....	18
10 CSR 10-6.060 Construction Permits Required.....	18
Construction Permit No. 122002-008, Issued November 8, 2002.....	18
EU0080 – GRINDER & EU0090 - PELLETIZER.....	20
PERMIT CONDITION (EU0080 through EU0090)-001	20
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	20
PERMIT CONDITION (EU0080 through EU0090)-002	21
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes	21
EU0140 – HAMMERMILL	22
PERMIT CONDITION EU0140-001.....	22
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	22
PERMIT CONDITION EU0140-002.....	23
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes	23

PERMIT CONDITION EU0140-003.....	24
10 CSR 10-6.060 Construction Permits Required.....	24
Construction Permit No. 102000-029, Issued October 4, 2000.....	24
EU0150 – MIXER & EU0160 PELLETIZER.....	25
PERMIT CONDITION (EU0150 through EU0160)-001	25
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	25
PERMIT CONDITION EU0160-002.....	26
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes	26
EU0170 – EMERGENCY GENERATOR	27
PERMIT CONDITION EU0170-001.....	27
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	27
EU0180 THROUGH EU0200 FURNACE, CASTING, AND KILNS	29
PERMIT CONDITION (EU0180 through EU0200)-001	29
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants	29
PERMIT CONDITION (EU0180 through EU0200)-002	30
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds	30
IV. CORE PERMIT REQUIREMENTS	32
V. GENERAL PERMIT REQUIREMENTS.....	37
10 CSR 10-6.065(6)(E)6 REOPENING-PERMIT FOR CAUSE	42
VI. ATTACHMENTS	42
ATTACHMENT A.....	43
ATTACHMENT B1	45
ATTACHMENT B2	46
ATTACHMENT C	47
ATTACHMENT D.....	48
ATTACHMENT E	49
ATTACHMENT F	50
ATTACHMENT G.....	51
ATTACHMENT H.....	52
ATTACHMENT I	53
ATTACHMENT J	57

I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

Northwest Missouri State University operates five boilers. Three boilers burn natural gas and two boilers have been modified to burn wood chips and paper/animal waste pellets. The paper/animal waste pellets are manufactured on site. The facility also operates several small boilers and cooling units. The fuel oil storage tanks have been removed.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
2006	3.47	0.66	26.7	2.01	59.31	1.94	---
2005	3.84	0.68	27.80	1.79	59.74	1.92	0.005
2004	3.55	0.75	29.42	1.84	61.33	1.98	0.02
2003	4.58	9.23	29.67	2.01	59.19	1.93	0.02
2002	3.75	2.20	29.10	3.86	59.74	1.94	0.02

EMISSION UNITS WITH LIMITATIONS

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

Emission Unit #	Description of Emission Unit	Emission Point
EU0010	Boiler #1	EP-01
EU0020	Boiler #2	EP-02
EU0030	Boiler #3	EP-03
EU0040	Boiler #4	EP-04
EU0050	Boiler #5	EP-05
EU0080	Waste Paper Grinder	EP-08
EU0090	Pelletizer	EP-09
EU0140	Hammermill	EP-14
EU0150	Mixer	EP-14A
EU0160	Pelletizer	EP-14B
EU0170	Emergency Generator	EP-15
EU0180	Crucible Furnace	EP-18
EU0190	Casting	EP-19
EU0200	Clay Kilns	EP-20

EMISSION UNITS WITHOUT LIMITATIONS

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

Description of Emission Source	Emission Point
Wood Chip Storage Pile	EP-07
Gasoline Storage Tanks (5,250 gallon, 570 gallon and 50 gallon capacity)	EP-10
Above Ground Oil Storage Tanks	EP-11

(5,250 gallon, 110 gallon, 570 gallon, and two 300 gallon capacity)

Small NG Fired Combustion Uits	EP-13
Small Propane Fired Combustion Units	EP-22
Parts Washers	EP-12
Pellet Storage Pile	EP-16
Ash Storage Pile	EP-17
Ceramic Glazing	EP-21
Space Heaters	EP-22
Wood Chip and Waste Paper Hauling	EP-06

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

1. Construction Permit No. 0792-038, Issued July 28, 1992;
2. Construction Permit No. 102000-029, Issued October 4, 2000; and
3. Construction Permit No. 122002-008, Issued Novermber 8, 2008.

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 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.

EU0010 through EU0030 Boilers			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0010	Boiler #1 – 26.0 MMBtu/hr Natural Gas Fired Boiler; Constructed in 1958	Bros Inc.	EP-01
EU0020	Boiler #2 – 26.0 MMBtu/hr Natural Gas Fired Boiler; Constructed in 1962	Bros Inc.	EP-02
EU0030	Boiler #3 – 26.0 MMBtu/hr Natural Gas Fired Boiler; Constructed in 1966	Bros Inc.	EP-03

PERMIT CONDITION (EU0010 through EU0030)-001
10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

Emission Limitation:

The permittee shall not emit particulate matter in excess of 0.38 pounds per million BTU of heat input.

Operation Limitation/Equipment Specifications:

This emission unit shall be limited to burning pipeline grade natural gas.

Monitoring/Record Keeping:

1. The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment A).
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

PERMIT CONDITION (EU0010 through EU0030)-002
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

1. No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **existing** source any visible emissions with an opacity greater than 40%.

Existing source-any equipment, machine, device, article, contrivance or installation installed or in construction in the outstate Missouri area on February 24, 1971 or in the Springfield metropolitan area on September 24, 1971.

Exception: If the source is altered, repaired, or rebuilt at a cost of fifty percent (50%) or more of its replacement cost exclusive of routine maintenance, it shall no longer be existing, but shall be considered new as defined in this regulation.

2. Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

1. The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
2. The following monitoring schedule must 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 (2) 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 must 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.

Record Keeping:

1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

EU0040 - Boiler			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0040	Boiler #4 – 26 MMBtu/hr Boiler; Primary Fuel: Paper Pellets; Secondary Fuel: Animal Waste/Paper Pellet Mix; Constructed in 1966 and Modified in 1993; Control Device: 2-stage ash collector – Cyclone (87% efficiency)	Bros Inc.	EP-04

PERMIT CONDITION EU0040-001
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 Limitation/Record Keeping/Reporting:

1. The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:
 - a) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility. [§60.48c(a)(1)]
 - b) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired. [§60.48c(a)(3)]
2. The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day. [§60.48c(g)(1)]
3. All records shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. [§60.48c(i)]

PERMIT CONDITION EU0040-002
10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

Emission Limitation:

The permittee shall not emit particulate matter in excess of 0.38 pounds per million BTU of heat input.

Monitoring:

1. Inspect the solids discharge valve for proper operation weekly.
2. Inspect the structural components, including the cyclone ductwork and hoods for leaks and component failures quarterly.
3. Check for leaks in the system to ensure airflow from the dirty side does not infiltrate the clean side annually.
4. Verify that the inlet and outlet ductwork is in proper operating condition annually.
5. Check the barrel and collecting tube for deposits and/or excess wear annually. Clean and repair as needed.
6. Maintain a written record of all observations, deficiencies and any action resulting from inspections.
7. All instruments and control equipment shall be calibrated, maintained and operated according to the manufacturer's instructions.

Recordkeeping:

1. All inspections, corrective actions, and instrument calibration shall be recorded (see Attachment H).
2. Attachment H contains a log including these record keeping requirements. This log, or an equivalent created by the permittee, must be used to certify compliance with this requirement
3. All records shall be maintained for five years.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

PERMIT CONDITION EU0040-003

10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

1. No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **existing** source any visible emissions with an opacity greater than 40%.
Existing source-any equipment, machine, device, article, contrivance or installation installed or in construction in the outstate Missouri area on February 24, 1971 or in the Springfield metropolitan area on September 24, 1971.
Exception: If the source is altered, repaired, or rebuilt at a cost of fifty percent (50%) or more of its replacement cost exclusive of routine maintenance, it shall no longer be existing, but shall be considered new as defined in this regulation.
2. Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

1. The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
2. The following monitoring schedule must 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 (2) 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 must 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.

Record Keeping:

1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION EU0040-004

10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

Emission Limitation:

1. No person shall cause or permit emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period
2. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.
3. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean

	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Operational Limitation/Equipment Specifications:

The emission unit shall be limited to burning paper pellets and paper/animal waste pellets.

Monitoring/Record Keeping:

1. The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment I).
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the emission limit established by 10 CSR 10-6.260, or any malfunction which causes an exceedance.

PERMIT CONDITION EU0040-005
 10 CSR 10-6.060 Construction Permits Required
 Construction Permit No. 0792-038, Issued July 28, 1992
 Construction Permit 122002-008, Issued November 8, 2002

Emission Limitations:

1. Operation of the paper pellet boiler will be limited to 7,999 tons of paper and wood chips burned for any 12-month period. [CP No. 0792-038 – Special Condition No.1]
2. Northwest Missouri State University shall emit less than 40 tons of Nitrogen Oxides (NO_x) from the combustion of animal waste/paper pellets in Boiler Number 4 (EP04) in any consecutive 12-month period. [CP No. 122002-008 – Special Condition 1A]
3. Northwest Missouri State University shall not emit more than 15 tons of Particulate Matter less than ten microns in diameter (PM₁₀) from the combustion of animal waste/paper pellets in Boiler Number 4 (EP04) in any consecutive 12-month period. [CP No. 122002-008 – Special Condition 1B]
4. The 2-stage ash collector (cyclone) associated with boiler Number 4 (EP04) must be in use at all times when the associated equipment is in operation. The cyclone and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications. [CP No. 122002-008 – Special Condition 2A]

Monitoring:

1. Northwest Missouri State University shall inspect the cyclone at least once every six (6) 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. [CP No. 122002-008 – Special Condition 2B]
2. Northwest Missouri State University 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. [CP No. 122002-008 – Special Condition 2C]
3. Attachment H or an equivalent created by the permittee shall be used to document inspection and maintenance activities for the cyclone.

Recordkeeping:

1. Records must be kept on site of the tons of paper and wood chips burned in the boiler each day. Total paper and wood chips burned must be calculated for the most recent 12-month period at the end of each month. [CP No. 0792-038 – Special Condition No.2]
2. Attachments E and F or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with the NO_x and PM emission limitations. Northwest Missouri State University shall maintain all records for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [CP No. 122002-008 – Special Condition 1C]

Reporting:

Northwest Missouri State University shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 no later than fifteen (15) days after the end of the month during which records indicate exceedence of the limitations. [CP No. 0792-038 – Special Condition No.3 and CP No. 122002-008 – Special Condition 1D]

EU0050 - Boiler			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0050	Boiler #5 – 35 MMBtu/hr Boiler; Primary Fuel: Wood Chips; Secondary Fuel: Animal Waste/Wood Chip Mix; Constructed in 1981; Control Device: Amerex Type P Wet Scrubber – Cyclone (92.54% efficiency for PM and 86 % efficiency for SOx)	Zurn	EP-05

PERMIT CONDITION EU0050-001
 10 CSR 10-3.060, Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating

Emission Limitation:

1. The permittee shall not emit particulate matter in excess of 0.24 pounds per million BTU of heat input.
2. The permittee shall calibrate, maintain and operate the instrumentation and scrubber according to the manufacturer’s specifications and recommendations.

Monitoring/Record Keeping:

1. The permittee shall measure the scrubber exhaust gas temperature once each hour that the boiler is operating to ensure that it never exceeds 225 degrees Fahrenheit.
2. The temperature shall be monitored with a thermocouple connected to a temperature gage.
3. The scrubber fan, Venturi cone, and pump nozzle shall be cleaned and inspected every two weeks.
4. The pump shall be cleaned and inspected every month.
5. The permittee shall maintain a written record of all inspections, maintenance, and calibration and any action resulting from these actions.

Recordkeeping:

1. The permittee shall document all operational readings on Attachment J, or its equivalent.
2. All inspections, corrective actions, and instrument calibration shall be recorded (see Attachment H).
3. All records shall be maintained for five years.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

PERMIT CONDITION EU0050-002
 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

1. No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
New source: any equipment, machine, device, article, contrivance or installation installed in the outstate Missouri area after February 24, 1971 or in the Springfield metropolitan area after September 24, 1971.
2. Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

1. The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
2. The following monitoring schedule must 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 (2) 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 must 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.

Record Keeping:

1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION EU0050-003
 10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds

Emission Limitation:

1. No person shall cause or permit emissions of sulfur dioxide into the atmosphere from any indirect heating source in excess of eight pounds of sulfur dioxide per million BTUs actual heat input averaged on any consecutive three hour time period
2. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.
3. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Operational Limitation/Equipment Specifications:

The emission unit shall be limited to burning wood chips and wood/animal waste pellets.

Monitoring/Record Keeping:

1. The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment I).
2. The calculations shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report to the Air Pollution Control Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of the emission limit established by 10 CSR 10-6.260, or any malfunction which causes an exceedance.

PERMIT CONDITION EU0050-004

10 CSR 10-6.060 Construction Permits Required
Construction Permit No. 122002-008, Issued November 8, 2002

Emission Limitations:

1. Northwest Missouri State University shall emit less than 40 tons of Nitrogen Oxides (NO_x) from the combustion of animal waste pellets/wood chips in Boiler Number 5 (EP05) in any consecutive 12-month period. [Special Condition 1A]
2. Northwest Missouri State University shall not emit more than 15 tons of Particulate Matter less than ten microns in diameter (PM10) from the combustion of animal waste pellets/wood chips in Boiler Number 5 (EP05) in any consecutive 12-month period. [Special Condition 1B]
3. The wet scrubber associated with boiler Number 5 (EP05) must be in use at all times when the associated equipment is in operation. The wet scrubber and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications [Special Condition 3A]

Monitoring:

1. Northwest Missouri State University shall inspect the wet scrubber at least once every six (6) 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. [Special Condition 3B]
2. Northwest Missouri State University shall maintain an operating, maintenance and inspection log for the wet scrubber which shall include the following:
 - d) 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;
 - e) Any maintenance activities conducted on the unit, such as replacement of equipment, etc.; and
 - f) 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. [Special Condition 3C]
3. Attachment H or an equivalent created by the permittee shall be used to document inspection and maintenance activities for the wet scrubber.

Recordkeeping:

Attachments E and F or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with the NO_x and PM emission limitations. Northwest Missouri State University shall maintain all records for not less than five (5) years and shall make them available

immediately to any Missouri Department of Natural Resources' personnel upon request. [Special Condition 1C]

Reporting:

Northwest Missouri State University shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102 no later than ten (10) days after the end of the month during which records indicate exceedence of the limitations. [Special Condition 1D]

EU0080 – Grinder & EU0090 - Pelletizer			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0080	Waste Paper Grinder; MHDR = 3.0 tons/hr; Constructed in 1992; Control Device: Cartridge Filter System (99% Control Efficiency for PM)	Haybuster	EP-08
EU0090	Waste Paper Pelletizer; MHDR = 3.0 tons/hr; Constructed in 1992; Control Device: Cartridge Filter System (99% Control Efficiency for PM)	California	EP-09

PERMIT CONDITION (EU0080 through EU0090)-001
 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
New source: any equipment, machine, device, article, contrivance or installation installed in the outstate Missouri area after February 24, 1971 or in the Springfield metropolitan area after September 24, 1971.
- Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- The following monitoring schedule must be maintained:
 - 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-
 - Observations must be made once every two (2) 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-
 - Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Record Keeping:

1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION (EU0080 through EU0090)-002

10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes

Emission Limitation:

1. Particulate matter shall not be emitted from EU0080 and EU0090 in excess of 8.56 lb/hr. These emission rates were calculated using the following equation:
 - a) For process weight rates of 60,000 lb/hr or less:
$$E = 4.10(P)^{0.67}$$
Where:
E = rate of emission in lb/hr
P = process weight rate in tons/hr
2. The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring/Record Keeping:

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitations will not be exceeded.
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:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU0140 – Hammermill			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0140	Hammermill for processing dried animal waste into pellets; MHDR = 1.5 tons/hr; Constructed pre 1991; Control Device: Cyclone (50% Control Efficiency for PM)	Bliss	EP-14

<p>PERMIT CONDITION EU0140-001 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants</p>

Emission Limitation:

1. No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
New source: any equipment, machine, device, article, contrivance or installation installed in the outstate Missouri area after February 24, 1971 or in the Springfield metropolitan area after September 24, 1971.
2. Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

1. The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
2. The following monitoring schedule must 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 (2) 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 must 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.

Record Keeping:

1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and

- c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION EU0140-002

10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes

Emission Limitation:

1. Particulate matter shall not be emitted from EU0140 in excess of 5.38 lb/hr.
These emission rates were calculated using the following equation:
 - b) For process weight rates of 60,000 lb/hr or less:
$$E = 4.10(P)^{0.67}$$

Where:
E = rate of emission in lb/hr
P = process weight rate in tons/hr
2. The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring/Record Keeping:

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitations will not be exceeded.
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:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

PERMIT CONDITION EU0140-003

10 CSR 10-6.060 Construction Permits Required
Construction Permit No. 102000-029, Issued October 4, 2000

Emission Limitation:

The cyclone associated with the emission point (EP-14) must be in use at all times when the associated equipment is in operation. The cyclone and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Special Condition 1A]

Monitoring/Record Keeping:

1. Northwest Missouri State University shall inspect the cyclone at least once every six (6) 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. [Special Condition 1B]
2. Northwest Missouri State University 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. [CP No. 122002-008 – Special Condition 3C]
3. Attachment H or an equivalent created by the permittee shall be used to document inspection and maintenance activities for the cyclone.

Reporting:

The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after any act of non compliance with these permit conditions.

EU0150 – Mixer & EU0160 Pelletizer			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0150	Mixer for holding dried animal waste; MHDR = 1.5 tons/hr; Constructed pre 1991; No Control Device	Hays-Stolz	EP-14A
EU0160	Pelletizer for producing pellets of mixed animal waste and paper; MHDR = 1.5 tons/hr; Constructed 1993; No Control Device	California	EP-14B

PERMIT CONDITION (EU0150 through EU0160)-001
 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
New source: any equipment, machine, device, article, contrivance or installation installed in the outstate Missouri area after February 24, 1971 or in the Springfield metropolitan area after September 24, 1971.
- Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- The following monitoring schedule must be maintained:
 - 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-
 - Observations must be made once every two (2) 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-
 - Observations must be made once per month. If a violation is noted, monitoring reverts to weekly.
- If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Record Keeping:

- The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - Whether any air emissions (except for water vapor) were visible from the emission units,

- b) All emission units from which visible emissions occurred, and
- c) Whether the visible emissions were normal for the process.
2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
6. All records shall be maintained for five years.

Reporting:

1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION EU0160-002

10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes

Emission Limitation:

1. Particulate matter shall not be emitted from EU0160 in excess of 5.38 lb/hr.
These emission rates were calculated using the following equation:
 - c) For process weight rates of 60,000 lb/hr or less:
$$E = 4.10(P)^{0.67}$$

Where:
E = rate of emission in lb/hr
P = process weight rate in tons/hr
2. The concentration of particulate matter in the exhaust gases shall not exceed 0.30 gr/scf.

Monitoring/Record Keeping:

1. The permittee shall retain the potential to emit calculations in Attachment G which demonstrate that the above emission limitations will not be exceeded.
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:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU0170 – Emergency Generator			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0170	Emergency Generator (max 120 kW); MHDR = 1.877 MMBtu/hr; Fuel: No. 2 Diesel Fuel; Constructed 1976	Onan	EP-15

PERMIT CONDITION EU0170-001
 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

Emission Limitation:

1. Emissions from any existing or new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
2. Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
3. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) of August 30, 1996 version, 10 CSR 10-6.260(3)(B) of May 30, 2004 version & 10 CSR 10-6.010 Ambient Air Quality Standards]

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m ³))	Annual arithmetic mean
	0.14 ppm (365 µg/m ³)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days

Operational Limitation/Equipment Specifications:

The emission unit shall be limited to burning number 2 Diesel Fuel.

Monitoring/Record Keeping:

1. The permittee shall maintain on the premises of the installation calculations demonstrating compliance with this rule (See Attachment I).
2. The calculation shall be made available immediately for inspection to the Department of Natural Resources' personnel upon request.

Reporting:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

EU0180 through EU0200 Furnace, Casting, and Kilns			
Emission Unit	Description	Manufacturer/Model #	2006 EIQ Reference #
EU0180	Crucible Furnace; Natural Gas fired furnaces used by the Fine Arts Dept. to work with aluminum or bronze at their foundry and forge; MHDR = 0.005 tons/hr aluminum or bronze; Burners rated at 0.235 and 0.2 MMBtu/hr; Constructed 2005	Unknown	EP-18
EU0190	Casting of Aluminum or bronze in the Fine Arts Department; MHDR = 0.005 tons/hr aluminum or bronze; Constructed 2005	Unknown	EP-19
EU0200	Clay Kilns – Firing of clay pottery in kilns at the Fine Arts Building; 2 Natural Gas-Fired Kilns (Constructed in 2005); 4 Electric Kilns (Constructed in 1991); and one Wood Fired Kiln (Constructed in 2007)	Unknown	EP-20

PERMIT CONDITION (EU0180 through EU0200)-001
 10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants

Emission Limitation:

- No owner or other person shall cause or permit emissions to be discharged into the atmosphere from any **new** source any visible emissions with an opacity greater than 20%.
New source: any equipment, machine, device, article, contrivance or installation installed in the outstate Missouri area after February 24, 1971 or in the Springfield metropolitan area after September 24, 1971.
- Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

Monitoring:

- The permittee shall conduct opacity readings on this emission unit using the procedures contained in USEPA Test Method 22. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. Readings are only required when the emission unit is operating and when the weather conditions allow. If no visible or other significant emissions are observed using these procedures, then no further observations would be required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- The following monitoring schedule must be maintained:
 - 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 (2) 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 must 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.

Record Keeping:

- 1. The permittee shall maintain records of all observation results (see Attachment B1 or B2), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units,
 - b) All emission units from which visible emissions occurred, and
 - c) Whether the visible emissions were normal for the process.
- 2. The permittee shall maintain records of any equipment malfunctions. (see Attachment C)
- 3. The permittee shall maintain records of any Method 9 test performed in accordance with this permit condition. (see Attachment D)
- 4. Attachments B1 or B2, C, and D contain logs including these record keeping requirements. These logs, or an equivalent created by the permittee, must be used to certify compliance with this requirement.
- 5. These records shall be made available immediately for inspection to Department of Natural Resources personnel upon request.
- 6. All records shall be maintained for five years.

Reporting:

- 1. The permittee shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the permittee determined using the Method 9 test that the emission unit(s) exceeded the opacity limit.
- 2. Reports of any deviations from monitoring, record keeping and reporting requirements of this permit condition shall be submitted semiannually, in the semi-annual monitoring report and annual compliance certification, as required by Section IV of this permit.

PERMIT CONDITION (EU0180 through EU0200)-002 10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds
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Emission Limitation:

- 1. Emissions from any existing or new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2. Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- 3. No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [[10 CSR 10-6.260\(4\) of August 30, 1996 version](#), [10 CSR 10-6.260\(3\)\(B\) of May 30, 2004 version](#) & [10 CSR 10-6.010 Ambient Air Quality Standards](#)]

Pollutant	Concentration by Volume	Remarks
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Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm) (80 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$))	Annual arithmetic mean
	0.14 ppm (365 $\mu\text{g}/\text{m}^3$)	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 $\mu\text{g}/\text{m}^3$)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 $\mu\text{g}/\text{m}^3$	24-hour average not to be exceeded more than once in any 90 consecutive days

Monitoring/Record Keeping:

1. The permittee shall retain the potential to emit calculations in Attachment I which demonstrate that the above emission limitations will not be exceeded.
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:

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

IV. Core Permit Requirements

The installation shall comply with each of the following requirements. 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.

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 section 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 section 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 sections 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 eighteen 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 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) 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 to satisfy the requirements of the Federal Clean Air Act, Title V.
- 3) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

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 Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 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 particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter 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 particulate matter 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.

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 10-3.030 Open Burning Restrictions

- 1) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- 2) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- 3) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
 - a) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - b) The schedule of burning operations;
 - c) The exact location where open burning will be used to dispose of the trade wastes;
 - d) Reasons why no method other than open burning is feasible; and
 - e) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.
- 4) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt **Northwest Missouri State University** from the provisions of any other law, ordinance or regulation.
- 5) The permittee shall maintain files with letters from the director approving the open burning operation and previous DNR inspection reports.

10 CSR 10-3.090 Restriction of Emission of Odors

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 requirement is not federally enforceable.

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 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 record keeping 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 Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in 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.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

10 CSR 10-6.280 Compliance Monitoring Usage
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- 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 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,

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 Record Keeping and Reporting Requirements

- 1) Record Keeping
 - 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, 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, record keeping, reporting, or any other requirements of the permit, this includes deviations or 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 paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) 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 semiannual 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 Section 112(r)

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 40 CFR Section 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:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) 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)1.I Reasonably Anticipated Operating Scenarios

None.

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 semiannually (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, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and 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 application 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 section 303 of the Act or section 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 the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources 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

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, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, 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.

- 1) Section 502(b)(10) changes. Changes that, under section 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), record keeping, 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, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, 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 APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP 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 APCP 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, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, 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 Raymond Courter, Vice President for Finance and Support Services. 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 owner or operator of this air contaminant source 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 source owner or operator 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

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) MDNR 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,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) 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,
- 4) 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
- 5) MDNR 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 A

This attachment may be used to demonstrate compliance with 10 CSR 10-3.060 *Maximum Allowable Emission of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*

Emission Limit for EU0010 through EU0040 (existing, i.e. installed by 02/15/1979):

$$0.90 Q^{-0.174} = 0.90(151.045)^{-0.174} = 0.38 \text{ lb/mmBtu}$$

where Q is the total heat input of all indirect heating sources at the installation.

Emission Limit for EU0050 (new unit, i.e. installed after 02/15/1979):

$$1.3 Q^{-0.338} = 1.3(151.045)^{-0.338} = .24 \text{ lb/mmBtu}$$

where Q is the total heat input of all indirect heating sources at the installation.

The following equipment was used to obtain the total heat input (Q) for the above equation:

Equipment	Heat Input (mmBtu/hr)
Boiler #1	26.0
Boiler #2	26.0
Boiler #3	26.0
Boiler #4	26.0
Boiler #5	35.0
Other Units	12.045
TOTAL	151.045

COMPLIANCE CALCULATIONS FOR UNITS EU0010 through EU0030:

Emission Rate (lb/mmBtu) = MHDR*Emission Factor/Heat Capacity (mmBtu/hr)

Emission Unit #	Heat Capacity	Maximum Hourly Design Rate ¹	PM Emission Factor	Emission Factor Reference	Potential Emission Rate	Emission Rate Limit
EU0010 through EU0030 (nat. gas)	26.0 (mmBtu/hr)	0.0248 mmft ³ /hr	7.6 lb/mmft ³	AP-42 Table 1.4-2	0.007 (lb/mmBtu)	0.38 (lb/mmBtu)

Boilers #1, #2, and #3 are in compliance and maximum potential emissions are less than the emission limits, therefore compliance calculations satisfy the monitoring requirements.

¹ Heat capacity divided by heating value of fuel; 1050 mmBtu/mmft³ for natural gas, 140 mmBtu/1000gal for fuel oil (AP-42, Appendix A)

COMPLIANCE CALCULATIONS FOR UNITS EU0040 and EU0050:

Emission Rate (lb/mmBtu) = MHDR*Emission Factor/Heat Capacity (mmBtu/hr)

Emission Unit #	Heat Capacity	Maximum Hourly Design Rate ²	PM Emission Factor	Control Efficiency (%)	Emission Factor Reference	Potential Emission Rate	Emission Rate Limit
EU0040 (paper pellets)	26.0 (mmBtu/hr)	2.0 tons/hr	4.77 lb/ton	87	AP-42 ^{Note 1}	0.0477 (lb/mmBtu)	0.38 (lb/mmBtu)
EU0040 (Animal Waste/paper pellets)	26.0 (mmBtu/hr)	2.0 tons/hr	21.03 lb/ton	87	Stack Test	0.21 (lb/mmBtu)	0.38 (lb/mmBtu)
EU0050 (wood chips)	35.0 (mmBtu/hr)	3.0 tons/hr	4.098 lb/ton	92.5	AP-42 ^{Note 2}	0.03 (lb/mmBtu)	0.24 (lb/mmBtu)
EU0050 (Animal Waste/Wood Chips)	35.0 (mmBtu/hr)	3.1 tons/hr	32.94 lb/ton	92.5	Stack Test	0.218	0.24 (lb/mmBtu)

Note 1: Emission Factor from AP-42, Section 1.6 (0.35 lbs filterable PM/MMBtu + 0.017 lbs condensable PM/MMBtu = 0.367 lbs PM/MMBtu. Assuming an average heating value of 6,500 Btu/lb, the emission factor is as follows:

$$0.367 \text{ bs PM/MMBtu} \times 6,500 \text{ Btu/lb} \times 2,000 \text{ lbs/ton} / 1,000,000 \text{ Btu/MMBtu} = 4.77 \text{ lbs PM/ton}$$

Note 2: Emission Factor from AP-42, Section 1.6 (0.33 lbs filterable PM/MMBtu + 0.017 lbs condensable PM/MMBtu = 0.347 lbs PM/MMBtu. Assuming an average heating value of 5,905 Btu/lb, the emission factor is as follows:

$$0.347 \text{ bs PM/MMBtu} \times 5,905 \text{ Btu/lb} \times 2,000 \text{ lbs/ton} / 1,000,000 \text{ Btu/MMBtu} = 4.098 \text{ lbs PM/ton}$$

Boilers #4 and #5 would not be in compliance if the control devices were removed, therefore monitoring and record keeping are required for these emission units.

² Heat capacity divided by heating value of fuel; 1050 mmBtu/mmft³ for natural gas, 140 mmBtu/1000gal for fuel oil (AP-42, Appendix A)

**ATTACHMENT B2
 Method 22 (Outdoor) Observation Log**

This record keeping sheet or an equivalent form may be used for the record keeping requirements of 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*.

Method 22 (Outdoor) Observation Log		
Emission Unit		
Observer	Date	
Sky Conditions		
Precipitation		
Wind Direction	Wind Speed	
Sketch process unit: Indicate the position relative to the source and sun; mark the potential emission points and/or the observing emission points.		
Observation Clock Time	Observation Period Duration (minute: second)	Accumulative Emission Time (minute: second)
Begin Observation		
End Observation		

ATTACHMENT D
Method 9 Opacity Emissions Observations

This record keeping sheet or an equivalent form may be used for the record keeping requirements of 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*.

Method 9 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

This attachment may be used to demonstrate compliance with the limitations of 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes* for the equipment listed.

PM Emission limit:

$$E = 4.1(P)^{0.67} \quad (P \leq 30)$$

$$E = 55(P)^{0.11} - 40 \quad (P > 30)$$

P is process weight rate in tons/hour and E is emission rate limit in lb/hour

Potential PM Emission Rate:

$$\text{Emission Rate (lb/hr)} = \text{Process Weight Rate (ton/hr)} * \text{PM Emission Factor (lb/ton)}$$

Emission Point #	Associated Equipment	Process Weight Rate (ton/hr)	PM Emission Factor (lb/ton)	Emission Factor Reference	Potential Uncontrolled Emission Rate (lb/hr)	Emission Rate Limit (lb/hr)
EP-08 EP-09	EU0080 – Waste Paper Grinder EU0090 – Waste Paper Pelletizer	3.0	0.35	FIRE (SCC30700802)	1.05	8.56
EP-14	EU0140 – Hammermill	1.5	.034 ^{Note1}	FIRE (SCC30200817)	0.051	5.38
EP-14B	EU0160 – Pelletizer	3.0	.61	FIRE (SCC30200809)	1.83	8.56

Note 1: The emission factor used in the previous operating permit was estimated to be 0.067 lb/ton according to AP-42 section 9.9.1. The FIRE emission factor for SCC3-02—008-17 Grain Milling/Hammermill is 0.034 which was used in the compliance calculations above. The emission factor includes the use of the cyclone. Assuming the cyclone control efficiency to be 95% (the highest estimate), the uncontrolled emissions of the hammermill would be 0.051/.05 = 1.02 lb/hr which is still below the emission limitation of 5.38 lb/hr. Therefore no monitoring of the cyclone will be required.

Emission rate (gr/dscf) = Emission Rate (lb/hr)*7000 (grains/lb)/Stack flow rate (SCFM)/60(min/hr)
 Flow rates converted from actual to standard conditions using the ideal gas law.

Emission Point #	Associated Equipment	Potential Emission Rate (lb/hr)	Stack Temp. °F	Stack Flow Rate		Potential Emission Rate (gr/scf)	Emission Rate Limit (gr/scf)
				ACFM	SCFM		
EP-08 EP-09	EU0080 – Waste Paper Grinding EU0090 – Waste Paper Pelletizer	1.05	70	14000	14308	0.009	0.3
EP-14	EU0140 – Hammermill	1.02	70	12000	12264	0.01	0.3
EP-14B	EU0160 – Pelletizer	1.83	70	12000	12264	0.017	0.3

ATTACHMENT I

This sheet or something may be used to help show compliance with the sulfur limitations on EU0040, EU0050 and EU0170 through EU0200.

Emission Unit EU0040 – Boiler #4:

Emission Limit = 8.0 lb SO₂/MMBtu heat input

Paper Pellets:

Total Maximum Design Rate = 26 MMBtu/hr

Maximum Hourly Design Rate = 2.0 tons/hr

EF for SO₂ for Paper Pellet Combustion (from AP-42 Section 1.6) = 0.3098 lb/ton

Maximum Potential PM Emissions = (2.0 tons/h) x (0.3098 lb/ton) / (26 MMBtu/hr) = 0.024 < 8.0 lb/MMBtu

Paper Pellets/Animal Waste Pellets:

Total Maximum Design Rate = 26 MMBtu/hr

Maximum Hourly Design Rate = 2.16 tons/hr

EF for SO₂ for Paper Pellet Combustion (from Stack Test) = 2.28 lb/ton

Maximum Potential PM Emissions = (2.16 tons/h) x (2.28 lb/ton) / (26 MMBtu/hr) = 0.189 < 8.0 lb/MMBtu

Therefore EU0040 – Boiler #4 is in compliance

Emission Unit EU0050 – Boiler #5:

Emission Limit = 8.0 lb SO₂/MMBtu heat input

Wood Chips:

Total Maximum Design Rate = 35 MMBtu/hr

Maximum Hourly Design Rate = 3.0 tons/hr

EF for SO₂ for Paper Pellet Combustion (from AP-42 Section 1.6) = 0.2953 lb/ton

Maximum Potential PM Emissions = (3.0 tons/h) x (0.2953 lb/ton) / (35 MMBtu/hr) = 0.025 < 8.0 lb/MMBtu

Wood/Animal Waste:

Total Maximum Design Rate = 35 MMBtu/hr

Maximum Hourly Design Rate = 3.1 tons/hr

EF for SO₂ for Paper Pellet Combustion (from stack test) = 0.09 lb/ton

Maximum Potential PM Emissions = (3.1 tons/h) x (0.09 lb/ton) / (35 MMBtu/hr) = 0.008 < 8.0 lb/MMBtu

Therefore EU0050 – Boiler #4 is in compliance

Emission Unit EU0170 – Emergency Generator:

Emission Limit = 500 ppmv SO₂

Q = 1,000 ACFM, MHDR = 0.013 MGal/hr

Temperature (F) = 900, Emission Factor = 39.7 lb/Mgal

SO₂ Concentration (C) = MHDR x EF x 4.53.59 x 10⁶ x (F + 460) x 22.4 / (60 x (32 + 460) x 0.028317 x 1000 x 64 x Q) =

137.51 ppmv < 500 ppmv

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 7.095 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Therefore EU0170 – Emergency Generator is in compliance.

Emission Unit EU0180 – Crucible Furnace:

Aluminum (no emission factor available, so only emissions from natural gas combustion are considered):

Emission Limit = 500 ppmv SO₂

Q = 4,075 ACFM, MHDR = 0.0006 MMCF/hr

Temperature (F) = 530, Emission Factor = 0.6 lb/MMCF

$$\text{SO}_2 \text{ Concentration (C)} = \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \times Q) =$$

137.51 ppmv < 500 ppmv

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 0.001 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Bronze:

Q = 4,075 ACFM, MHDR = 0.0050 tons/hr

Temperature (F) = 530, Emission Factor = 0.6 lb/ton

$$\text{SO}_2 \text{ Concentration (C)} = \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \times Q) =$$

0.12 ppmv < 500 ppmv

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 0.008 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Therefore, EU0180 – Crucible Furnace is in compliance

Emission Unit EU0190 – Casting:

Aluminum:

Emission Limit = 500 ppmv SO₂

Q = 4,075 ACFM, MHDR = 0.0050 tons/hr

Temperature (F) = 530, Emission Factor = 0.02 lb/tons

$$\text{SO}_2 \text{ Concentration (C)} = \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \times Q) =$$

0.004 ppmv < 500 ppmv

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 0.0003 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Bronze: No emission factor is available

Therefore EU0190 – Casting is in compliance.

Emission Unit EU0200 – Clay Kiln Firing:

Natural Gas Combustion:

Emission Limit = 500 ppmv SO₂

$$\begin{aligned}Q &= 1,800 \text{ ACFM, MHDR} = 0.0005 \text{ MMCF/hr} \\ \text{Temperature (F)} &= 1,800, \text{ Emission Factor} = 0.6 \text{ lb/MMCF} \\ \text{SO}_2 \text{ Concentration (C)} &= \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \\ &\times Q) = \\ &0.08 \text{ ppmv} < 500 \text{ ppmv}\end{aligned}$$

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 0.002 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Kiln Firing:

Emission Limit = 500 ppmv SO₂

$$\begin{aligned}Q &= 1,800 \text{ ACFM, MHDR} = 0.1 \text{ ton/hr} \\ \text{Temperature (F)} &= 1,800, \text{ Emission Factor} = 9.5 \text{ lb/tons} \\ \text{SO}_2 \text{ Concentration (C)} &= \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \\ &\times Q) = \\ &11.3 \text{ ppmv} < 500 \text{ ppmv}\end{aligned}$$

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 1.7 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Wood Combustion:

Emission Limit = 500 ppmv SO₂

$$\begin{aligned}Q &= 1,800 \text{ ACFM, MHDR} = 0.3 \text{ MMBtu/hr} \\ \text{Temperature (F)} &= 2,300, \text{ Emission Factor} = 0.025 \text{ lb/MMBTU} \\ \text{SO}_2 \text{ Concentration (C)} &= \text{MHDR} \times \text{EF} \times 453.59 \times 10^6 \times (F + 460) \times 22.4 / (60 \times (32+460) \times 0.028317 \times 1000 \times 64 \\ &\times Q) = \\ &2.18 \text{ ppmv} < 500 \text{ ppmv}\end{aligned}$$

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 0.056 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Wood-Fired Kiln (Firing):

Emission Limit = 500 ppmv SO₂

Q = 1,800 ACFM, MHDR = 0.0035 ton/hr

Temperature (F) = 2,300, Emission Factor = 44 lb/tons

Maximum Sulfur Content = 1% (used for worst-case; actual %S is estimated to be no more the 0.05%)

SO₂ Concentration (C) = MHDR x EF x S x 453.59 x 10⁶ x (F +460) x 22.4/(60 x (32+460) x 0.028317 x 1000 x 64 x Q) =

44.8 ppmv < 500 ppmv

Emission Limit = 35 mg/m³ SO₃

$$\begin{aligned}\text{SO}_3 \text{ Concentration} &= C \times 64 \times 1000 \times 0.05 / (((F+460)/1.8) \times 22.41/273)/1000 \\ &= 6.8 \text{ mg/m}^3 < 35 \text{ mg/m}^3\end{aligned}$$

Therefore EU0200 – Clay Kiln Firing is in compliance.

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 June 26, 2006;
- 2) 2006 Emissions Inventory Questionnaire, received March 19, 2007;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition;
- 4) Construction Permit No. 0792-038, Issued July 28, 1992;
- 5) Construction Permit No. 102000-029, Issued October 4, 2000; and
- 6) Construction Permit No. 122002-008, Issued November 8, 2002.

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

10 CSR 10-3.060, *Maximum Allowable Emissions of Particulate Matter from Fuel Burning Equipment Used for Indirect Heating*

In the previous operating permit this rule was not applied to Emission Unit EU0040 – Boiler #4 because it was subject to 40 CFR Part 60 Subpart Dc. However, Subpart Dc only includes requirements to record and maintain record of amounts of each fuel combusted daily. There is no particulate matter standard to be applied to this unit under Subpart Dc, therefore 10 CSR 10-3.060 was applied. Monitoring of the cyclone is required to ensure compliance with the particulate matter limitation.

10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*

In the previous operating permit this rule was not applied to Emission Unit EU0040 – Boiler #4 because it was subject to 40 CFR Part 60 Subpart Dc. However, Subpart Dc only includes requirements to record and maintain record of amounts of each fuel combusted daily. There is no opacity standard to be applied to this unit under Subpart Dc, therefore 10 CSR 10-6.220 was applied.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

In the previous operating permit this rule was not applied to Emission Unit EU0040 – Boiler #4 because it was subject to 40 CFR Part 60 Subpart Dc. However, Subpart Dc only includes requirements to record and maintain record of amounts of each fuel combusted daily. There is no sulfur emissions standard to be applied to this unit under Subpart Dc, therefore 10 CSR 10-6.260 was applied.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) 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*

This rule is not applicable because the installation is in an ozone attainment area.

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds* does not apply to Boilers #1, #2, and #3 (EU0010 through EU0030). According to Paragraph (1)(A)2. of this rule combustion equipment that uses exclusively pipeling grade natural gas is exempt. The fuel oil storage tanks for these units have been removed and fuel oil will no longer be combusted, therefore this rule was not included in the operating permit for these units.

10 CSR 10-6.400, *Restriction of Emissions of Particulate Matter From Industrial Processes*
This regulation was not applied to EU0150 – Mixer because the potential emissions of this units is below 0.5 lb/hr:

EU0150 Mixer MHDR = 1.5 ton/hr
 Emission Factor = 0.017 lb/ton
 Maximum Potential Emissions = $1.5 \times 0.017 = 0.255$ lb/hr < 0.5 lb/hr

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

1. Permit No. 0792-038, Special Condition 3: The reporting period was changed from ten days to fifteen days per MDNR policy.
2. A reporting requirement was added to the conditions of Permit No. 102000-029.

New Source Performance Standards (NSPS) Applicability

40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*

This Subpart was applied to EU0040 – Boiler #4 because it was modified after June 9, 1989 (it was retrofitted to burn paper pellets) and it has a maximum design heat input capacity between 10 and 100 MMBtu/hr.

Maximum Available Control Technology (MACT) Applicability

None.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

In the permit application and according to APCP records, there was no indication that any Missouri Air Conservation Law, Asbestos Abatement, 643.225 through 643.250; 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants, Subpart M, National Standards for Asbestos; and 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

Compliance Assurance Monitoring (CAM) 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 has a pre-control potential to emit above the major threshold and uses a control device to achieve compliance with a relevant standard. This is explained further below:

40 CFR Part 64 does not apply to EP-04 due to Condition #1 of Permit #0792-038 limiting the operation of this boiler such that its potential uncontrolled PM10 emissions are less than 100 tons per year. Also, 40 CFR Part 64 does not apply to EU0050 Boiler #5 due to EPA updating AP-42, Section 1.6 which contains the emission factor used to determine potential PM10 emissions from this unit. The emission factor is taken from Tale 1.6-1 as follows: 0.29 lbs filterable PM10/MMBtu (average moisture content of wood chips is 29.06% - considered to be "wet" in AP-42) + 0.017 lbs condensible PM10/MMBtu = 0.307 lbs PM10/MMBtu. The average heating value of the wood chips is 5,905 Btu/lb, so 0.307 lbs PM10/MMBtu x 5,905 Btu/lb x 2000 lb/ton / 1,000,000 Btu/MMBtu = 3.626 lb PM10/ton. Thus, 3.0 tons/hr (MHDR of boiler) x 3.626 lb PM10/ton x 8,760 hrs/yr / 2000 lbs/ton = 48.42 ton/yr potential PM10 emissions which is less than the major threshold of 100 ton/yr.

Other Regulatory Determinations

None.

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 APCP'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 APCP a schedule for achieving compliance for that regulation(s).

Prepared by:

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