PUBLIC NOTICE

The Iowa Department of Natural Resources (DNR) is proposing to issue a Title V Operating Permit and a Phase II Acid Rain Permit to Muscatine Power and Water. This facility is located at 1700 Dick Drake Way, Muscatine, Iowa 52761. DNR is currently reviewing a permit applications submitted by Muscatine Power and Water to operate their existing electric services facility.

Muscatine Power and Water is required to obtain a Title V Operating Permit pursuant to 567 Iowa Administrative Code (IAC) 24.101. This facility has the potential to emit the following air pollutants annually:

PM-2.5 (particulate matter 2.5 microns or less in diameter): 407.46 tons
PM-10 (particulate matter ten microns or less in diameter): 2,007.62 tons
Particulate Matter: 2,126.48 tons
Sulfur Dioxide: 5,050.48 tons
Nitrogen Oxides: 5,551.94 tons
Volatile Organic Compounds: 79.62 tons
Carbon Monoxide: 1,799.67 tons
Lead: 0.05 tons
Hazardous Air Pollutants: 111.73 tons

This facility is considered an affected source under 40 Code of Federal Regulations (CFR) Part 72, 73, 75, 76, 77 and 78 definitions as units at this source are subject to acid rain emission reduction requirements or acid rain emission limitations, as adopted by the Department by reference, 567 Iowa Administrative Code (IAC) Chapter 24.

Based on the information provided in the Title V Operating Permit application and the Phase II Acid Rain Permit application, the DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107 and an Acid Rain Permit specified in 567 IAC 24.135 to 24.145.

A copy of the Public Notice is available for public inspection at the:

Musser Public Library
408 E 2nd Street
Muscatine, IA 52761
Phone: 563-263-3065

These documents are also available on the Air Quality Bureau's website at:

www.iowadnr.gov/titlev-draft

For additional information or for a copy of the draft permit or fact sheet contact:

Derek Wedemeier
Iowa Department of Natural Resources - Air Quality Bureau
6200 Park Ave
Ste #200
Des Moines, Iowa 50321
Phone: (515) 725-9520
E-mail: Derek.Wedemeier@dnr.iowa.gov

A complete record of the permits review, including the permit applications and the draft permits, is available for public inspection Monday-Friday, 8:00 a.m. - 4:30 p.m., at the DNR address shown above.

The public comment period for the draft permit will run from April 30, 2026 through May 30, 2026. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown above. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.

Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in the draft permits. Mail hearing requests to Derek Wedemeier at the DNR address shown above.

DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the permit application. The responsiveness summary and the final permits will be available to the public upon request.

Individuals with disabilities or limited English proficiency are encouraged to participate in all DNR activities, including submitting public comments. If a reasonable accommodation or language services are needed to participate, contact the Air Quality Bureau staff member listed or Relay Iowa TTY Service at 800-735-7942 in advance to advise them of your specific needs. DNR’s language access and disability nondiscrimination plans are available at https://www.iowadnr.gov/about/nondiscrimination-accessibility-language-access.

Iowa Department of Natural Resources
Draft Title V Operating Permit

Name of Permitted Facility: Muscatine Power and Water
Facility Location: 1700 Dick Drake Way, Muscatine, Iowa 52761
Air Quality Operating Permit Number: 98-TV-021R5
Expiration Date: **DATE**
Permit Renewal Application Deadline: **DATE**

EIQ Number: 92-3726
Facility File Number: 70-01-011

Responsible Official
Name: Ms. Mary Jean Brewster
Title: Manager, Environmental Affairs
Mailing Address: 3205 Cedar Street, PO Box 899 Muscatine, Iowa 52761-2204
Phone #: (563) 262-3259

Permit Contact Person for the Facility
Name: Mr. Neil Hoskins
Title: Environmental Specialist II
Mailing Address: 3205 Cedar Street, PO Box 899 Muscatine, Iowa 52761-2204
Phone #: (563) 262-3582

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 24, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

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Corey McCoid, Supervisor of Air Operating Permits Section Date

Table of Contents

Abbreviations

acfm.....Actual cubic feet per minute
bhp.....brake horse power
CE .....control equipment
CEM.....continuous emissions monitor
cfm……. cubic feet per minute
CFR.....Code of Federal Regulations
dscfm……. dry standard cubic feet per minute
EIQ.....Emissions inventory questionnaire
EP.....emission point
EU .....emission unit
^{o}F.....Degrees Fahrenheit
gr./dscf .....Grains per dry standard cubic foot
gal.....gallon
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
kW.....kilowatt
lb./hr .....Pounds per hour
lb./mmBtu .....Pounds per million British thermal units
NAICS.....North American Industry Classification System
NSPS .....New source performance standards
SCC .....Source Classification Codes
scfm.....standard cubic feet per minute
SIC .....Standard Industrial Classification
Tons/hr .....Tons per hour
T-R .....Transformer-Rectifier (Electrostatic Precipitators)
TPY .....Tons per year
USEPA.....United States Environmental Protection Agency
VMT.....Vehicle Mile Traveled

Pollutants

PM.....Particulate matter (equivalent to TSP, total suspended particles)
PM_{10} .....Particulate matter ten microns and less in diameter
$PM_{2.5}$ .....Particulate matter two and one half microns and less in diameter
SO_2 .....Sulfur dioxide
SO_x .....Sulfur oxides
NO_x .....Nitrogen oxides
VOC .....Volatile organic compounds
CO .....Carbon monoxide
HAP.....Hazardous air pollutants

I. Facility Description and Equipment List

Facility Name: Muscatine Power and Water
Permit Number: 98-TV-021R5

Facility Description: Electrical Generation (SIC 4911) and Potable Water Plant (SIC 4941)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	Construction Permit Number
15	15	Unleaded Gasoline Storage Tank Vent (1,000 Gallons)	N/A
100	100	Unit 10 Combustion Turbine	25-A-013-S1
	101	Unit 10 Duct Burner	
101	100	Unit 10 Combustion Turbine	25-A-014-S1
21	20	Rail Hoppers A, B and C	93-A-288-S4
	21	Feeder Belt A	
	22	Feeder Belt B	
	23	Transfer Conveyor Load	
22	20	Rail Hoppers A, B and C	93-A-289-S4
	21	Feeder Belt A	
23A	24A	Transfer Conveyor Discharge / Radial Stacker Load	93-A-290-S3
24	26	Radial Stacker Discharge	13-A-139
	27	Coal Pile	
	27A	Coal Pile Bulldozing	
	342	Coal Pile Truck Unloading	
300	300	Barge Coal Unloader	13-A-140
301	305	Coal Reclaim / RC-1 Conveyor Load	80-A-193-S3
	306	Reclaim Feeders	
302	301	Barge Unloader Discharge/UC-1 Conveyor Load	13-A-141
310B	310B	Reclaim Feeder –2 Discharge/Reclaim Conveyor-2 Load	00-A-683-S1
311	312A	RC-1/ UC-1 Conveyor Discharge/Live Storage Coal Silo	80-A-194-S3
311B	311B	Reclaim Conv-2 Discharge / LSCS-2 Load	00-A-684-S1
312	319A	Silo Feeder SF-1 through SF-4 / LSC-1 Conveyor Load	93-A-286-S6
	394	ChemMod Additive Transfer to LSC-1 Conveyor	
312B	312B	LSCS-2 Discharge/Silo Feeder-6 Load	00-A-686-S1
313B	313B	Silo Feeder-6 Discharge / Reclaim Conveyor –3 Load	00-A-687-S1
314	317A	Silo Feeder SF-1 through SF-4 / EPC-1 Conveyor Load	80-A-196-S4
	314B	Reclaim Conveyor-3 Discharge / EPC-1 Conveyor Load	
	315B	Pugmill Product Conv. Disch. / EPC-1 Conv. Load	
320	328	Unit 7 Coal Crusher & Bypass Feeder	01-A-193-S2
	329	Unit 8 Coal Crusher Feeders 8A & 8B	
	320-1	EPC-1 Conveyor Discharge	
	322-1	EPC-1 Conveyor & K-Conveyor Discharge / Unit 7 Surge Bins	
322	323-1	Unit 7 Coal Crusher	80-A-006-S3

Emission Point Number	Emission Unit Number	Emission Unit Description	Construction Permit Number
	326	7 & 8 Crusher & Coal Bypass Chute Discharge / L-Conveyor Load	
	324A/325A	Unit 8A & 8B Coal Crushers	
330	330	Truck Loading & Unloading Track Hopper A-Conveyor	13-A-153
330A			13-A-154
333	330A	Track Hopper Feeders A & B / A-Conveyor Load	80-A-007- S3
	331	A-Conveyor Discharge / C-Conveyor Load	
	333	C-Conveyor Discharge / K-Conveyor Load	
	336	L-Conveyor Discharge / E-Conveyor Load	
341	340	E-Conveyor Discharge / Unit 8 Coal Bunkers 8A, 8B & 8C	00-A-638-S1
	342	G-Conveyor Discharge / Truck Loading & Unloading	
	343	E-Conveyor Discharge / F-Conveyor Load	
	344	F-Conveyor Discharge / Unit 7 Coal Bunkers 7A & 7B	
351	350A	LSC-1 Conveyer Discharge	06-A-650-S3
	350B	PC-1 Conveyor Load	
	350C	SOC-1 Conveyor Load	
360	361	PSC-9 Conveyor	80-A-197-S2
	366	Coal Silo 9A, 9B, 9C, 9D	
370	370	SOC-1 Conveyor Discharge / RSC-1 Conveyor Load	93-A-283-S2
	372	RSC Conveyor-1 Discharge	
392	392	Day Bin on EPC Conveyor	13-A-342
394	394A	Storage Bin	20-A-098
40	40	Limestone Hopper Loading	13-A-155
41	41	Limestone Conveying	80-A-202-S2
41	42	Limestone Crushing	80-A-202-S2
	43A	Limestone Storage Silos	
45	45	Limestone Storage Pile	13-A-142
	45A	Limestone Truck Unloading	
60	60	Auxiliary Boiler	13-A-152-S1
70	70	Unit 7 Traveling Grate Stoker Boiler	74-A-175-S4
80	80	Unit 8 Cyclone Boiler	95-A-373-P4
88	88	Activated Carbon Storage Silo	15-A-459
98	98	Activated Carbon Storage Silo	15-A-460
810	CE810A/ CE810B	Filter / Separator Dust Collector DC-6A	00-A-639-S1
813	810	Fly Ash Silo	N/A
814	810	Fly Ash Silo	01-A-218-S1
	811	Dry Fly Ash Truck Loading	
90	90	Unit 9 Dry Bottom Tangential Fired Boiler	80-A-191-P4
912A	912A	Reversing Conveyor, A – Discharge / Load	13-A-157-S1
	912B	Reversing Conveyor B – Discharge / Load	
916	916A	Load Out Conveyor Discharge	13-A-159-S1
	916B	Radial Stacker Conveyor Discharge	
919	919	Synthetic Gypsum Storage Pile Wind Erosion	13-A-146-S2
	919A	Synthetic Gypsum Storage Pile Truck Loading and Traffic	
	919B	Synthetic Gypsum Storage Pile Formation	

Emission Point Number	Emission Unit Number	Emission Unit Description	Construction Permit Number
920/920C	920	Fly Ash Silo Vent Filter Exhaust and Pressure Valve	80-A-201-S1
920A	CE920	Cyclone Separator Dust Collector DC-13B	80-A-200-S1
	924	Dry Fly Ash Temporary Storage – Truck Unloading	
920B	CE920	Cyclone Separator Dust Collector DC-13B	13-A-147
	924	Dry Fly Ash Temporary Storage – Truck Unloading	
924	924	Dry Fly Ash Truck Loadout	13-A-148
860	860	Ash/Slag Storage Pile Wind Erosion	13-A-143-S2
	860B	Ash/Slag Storage Truck Loading	
	860C	Ash/Slag Storage Truck Unloading	
	860D	Ash/Slag Storage Pile Bulldozing	
927	927	Portable Diesel Tank – Breathing Loss & Working Loss (300 Gallons)	01-A-458
7890	7890	Portable Equipment Gasoline Engines (12 Engines)	13-A-150
7892	7892	Portable Equipment Diesel Engine (105 HP)	13-A-151
50	50	Emergency Generator (227 HP)	N/A
820	820	Unit 8 Fire Protection System Diesel Engine (182 BHP)	N/A
930	930	Unit 9 Fire Protection System Diesel Engine Exhaust (182 BHP)	N/A
V168	V168	Portable Emergency Generator (345 kW)	11-A-562-S2
9999	9999	Facility Haul Roads	13-A-160-S6
Levee	Levee	Mississippi River Levee	13-A-161

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
10	Fuel Oil Storage Tank 9A (100,000 Gallons)
11	Fuel Oil Storage Tank 9B (100,000 Gallons)
16	Used Oil Storage Tank (1,000 gal)
821	Unit 8 Fire Protection System Diesel Storage Tank Vent (300 Gallons)
880A	Drinking Water Treatment, Hydrogen Fluoride
880B	Drinking Water Treatment, Hydrogen Fluoride
880G	Drinking Water Treatment, Chlorine Gas
880H	Drinking Water Treatment, Chlorine Gas
910A	Vacuum Drum A Exhaust
910B	Vacuum Drum B Exhaust
931	Unit 9 Fire Protection System Diesel Storage Tank Vent (300 Gallons)
1900	Unit 9 Waste Water Treatment Building, Chlorine Gas
1901	Unit 9 Waste Water Treatment Building, Chlorine Gas
1910	Unit 9 Waste Water Treatment Building, Sulfur Dioxide
1991	Unit 9 Waste Water Treatment Building, Sulfur Dioxide
2010	Material Handling Used Oil Storage Tank Vent
3014	Parts Washer, Material Handling Maintenance Building
7890a	Portable Equipment – Gasoline Engines – Tank Vent
7892a	Portable Equipment – Diesel Engines – Tank Vents
8030	Parts Washer, Units 7 and 8
9004	Unit 9 Laboratory Fume Hood
9045	Parts Washer, Unit 9
9060	Stick Welding
9061	MIG Welding
9062	TIG Welding
9084	Parts Washer, Flue Gas Desulfurization Building

II. Plant-Wide Conditions

Facility Name: Muscatine Power and Water
Permit Number: 98-TV-021R5

Permit conditions are established in accord with 567 Iowa Administrative Code rule 24.108. When 567 IAC as amended May 15, 2024, and cited in this permit becomes State Implementation Plan (SIP) approved, it will supersede 567 IAC as amended February 8, 2023. Prior to May 15, 2024, all Title V rule citations in this Title V permit were found and cited in 567 IAC Chapter 22. During the period from May 15, 2024, to the date that 567 IAC as amended May 15, 2024, is approved into the SIP, both 567 IAC as amended May 15, 2024 and 567 IAC as amended February 8, 2023 form the legal basis for the applicable requirements included in this permit. A crosswalk showing the citation changes is attached to this permit in Appendix D.

Permit Duration

The term of this permit is: Five (5) years.
Commencing on: **DATE**
Ending on: **DATE**

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 24.110 - 24.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 24.115.

Emission Limits

Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO_2): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed on or after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from the equation

provided in 23.3(2)"a"(2) or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be handled, transported or stored or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved roads. Ordinary travel includes routine traffic and road maintenance activities such as scarifying, compacting, transporting road maintenance surfacing material, and scraping of the unpaved public road surface. (the preceding sentence is State Only) All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

Authority for Requirement: 567 IAC 23.3(2)"c"

Agreements between IDNR and MP&W:

Muscatine Power and Water (MP&W) shall comply with all requirements of the PM LAER and offsets agreement signed by MP&W on 12/27/79 and signed by Iowa Department of Environmental Quality (IDEQ, the permitting authority at that time) and the revised SO_2 LAER and offsets agreement signed by MP&W on 12/7/82 and signed by IDEQ on 12/13/82 remain in effect.
Authority for Requirement: 567 IAC 24.108(1)

NSPS and NESHAP Applicability

40 CFR 60 Subpart A Requirements

This facility is an affected source and these *General Provisions* apply to the facility. The affected units are EU21, EU22, EU23A, EU90, EU820, EU930, EU300, EU301, EU302, EU310B, EU311, EU311B, EU312, EU312B, EU313B, EU314, EU320, EU322, EU333, EU341, EU351, EU360, and EU370.

See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 60 Subpart A
567 IAC 23.1(2)

40 CFR 60 Subpart Da Requirements

This facility is subject to the Standards of Performance for *Electric Utility Steam Generating Units* for which Construction is Commenced after September 18, 1978. The affected unit is EU90.

See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 60 Subpart Da
567 IAC 23.1(2)"z"

40 CFR 60 Subpart Y Requirements

This facility is subject to Standards of Performance for *Coal Preparation Plants*. The affected units are EU21, EU22, EU23A, EU300, EU301, EU302, EU310B, EU311, EU311B, EU312, EU312B, EU313B, EU314, EU320, EU322, EU333, EU341, EU351, EU360, and EU370.

See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

40 CFR 60 Subpart KKKK Requirements

This facility is subject to Standards of Performance for *Stationary Combustion Turbines.* The affected unit is EU100. See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 60 Subpart KKKK
567 IAC 23.1(2)"aaaa"

40 CFR 63 Subpart A Requirements

This facility is an affected source and these *General Provisions* apply to the facility. The affected units are EU60, EU70, EU80, EU90, and EU50.

See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 63 Subpart A
567 IAC 23.1(4)"a"

40 CFR 63 Subpart YYYY Requirements

This facility is subject to National Emission Standards for Hazardous Air Pollutants for *Stationary Combustion Turbines.* The affected unit is EU100. See Appendix A for a link to the Standard.

Authority for Requirement: 40 CFR 63 Subpart YYYY
567 IAC 23.1(4)"cy"

40 CFR 63 Subpart ZZZZ Requirements
This facility is subject to National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines.* The affected units are EU50, EU820, and EU930.
See Appendix A for a link to the Standard.
Authority for Requirement: 40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

40 CFR 63 Subpart DDDDD Requirements
This facility is subject to National Emission Standards For Hazardous Air Pollutants for *Industrial, Commercial, And Institutional Boilers And Process Heaters.* The affected units are EU60 and EU70.
See Appendix A for a link to the Standard.
Authority for Requirement: 40 CFR 63 Subpart DDDDD

40 CFR 63 Subpart UUUUU Requirements
This facility is subject to National Emission Standards for Hazardous Air Pollutants from *Coal and Oil-fired Electric Utility Steam Generating Units (EGU-MATS).* The affected units are EU80 and EU90.
See Appendix A for a link to the Standard.
Authority for Requirement: 40 CFR 63 Subpart UUUUU

III. Emission Point-Specific Conditions

Facility Name: Muscatine Power and Water
Permit Number: 98-TV-021R5

Emission Point ID Number: 15

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
15	Unleaded Gasoline Storage Tank	Gasoline	1000 Gallons	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 100 (Future State)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment		Raw Material	Rated Capacity	Construction Permit
100	Unit 10 Combustion Turbine with, Heat Recovery Steam Generator	CE101: Dry Low NOx Combustions	CE100 Oxidizing Catalyst	Natural Gas	323.68 MMBtu/hr heat input 45 MW Electrical Output 318,000 lb/hr steam output	25-A-013-S1
101	Unit 10 Duct Burner	CE102: Low NOx Burner			200.69 MMBtu/hr heat input	

Continuous Emissions Monitors ID Numbers: ME100 (NOx), ME101 (CO_2)

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% (1)
Authority for Requirement: DNR Construction Permit 25-A-013-S1
567 IAC 23.3(2)"d"

(1)An exceedance of the indicator opacity of "no visible emissions" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: $PM_{2.5}$
Emission Limit(s): 4.6 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-013-S1

Pollutant: PM_{10}
Emission Limit(s): 4.6 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-013-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 4.6 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 25-A-013-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.4 lb/hr, 0.060 lb/MMbtu
Authority for Requirement: DNR Construction Permit 25-A-013-S1
567 IAC 23.1(2)"aaaa"
40 CFR 60 Subpart KKKK

Pollutant: Nitrogen Oxides (NOx)
Emission Limit(s): 211.3 tons/yr[(2)], 25 ppm @ 15% O_2 or 1.2 lb/MWh [(3)],
96 ppm @ 15% O2 or 4.5 lb/MWh[(4)]
Authority for Requirement: DNR Construction Permit 25-A-013-S1
567 IAC 23.1(2)"aaaa"
40 CFR 60 Subpart KKKK

[(2)] Annual NOx emission limit is based on a 365-day rolling average. The limit applies to both EP100 and EP101 and is based on the short term limits and the maximum capacity of the turbine and duct burner. The annual NOx emission limit applies at all times, including startup, shutdown and malfunctions.
[(3)] Emission limit when the turbine is operating at 75% of base load or greater (i.e. ≥ 242.76 MMBTU heat input). In accordance with §60.4350(h), compliance with NOx emission limit is based on a rolling 30-day average. The emission limit applies at all times during this operating condition, including startup, shutdown and malfunctions.
[(4)] Emission limit when the turbine is operating at less than 75% of base load (i.e. < 242.76 MMBTU heat input). In accordance with §60.4350(h), compliance with NOx emission limit is based on a rolling 30-day average. The emission limit applies at all times during this operating condition, including startup, shutdown and malfunctions.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 11.4 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-013-S1

Pollutant: Single HAP (Formaldehyde)
Emission Limit(s): 91 ppb_{vd} @ 15% O_2[(5)]
Authority for Requirement: DNR Construction Permit 25-A-013-S1
567 IAC 23.1(4)"cy"
40 CFR 63 Subpart YYYY

[(5)]Limit applies at all times except during turbine startup. The period of time for turbine startup is subject to the limits specified in the definition of startup in §63.6175. Per §63.6092 this limit applies only to the turbine and not to the duct burners.

Acid Rain Limits
Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: Sulfur Dioxide Allowances
Authority for Requirement: 567 IAC 24.108(7) (See attached Phase II Acid Rain Permit)

Cross-State Air Pollution Rule (CSAPR) (aka Transport Rule (TR)) Limit
Pollutant: Nitrogen Oxides (NO_x) Annual, Nitrogen Oxides (NOX) Ozone Season Group 2, Sulfur Dioxide (SO_2) Group 1
Emission Limits: Nitrogen Oxides and Sulfur Dioxide Allowance
Authority for Requirement: 40 CFR Part 97 (See Appendix B for requirements)

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The emission units covered by this permit are a Stationary Combustion Turbine (EU100) and a Duct Burner (EU101) that is located prior to a heat recovery steam generator (HRSG). Emissions from both EU100 and EU101 are controlled by a Catalytic Oxidation unit (CE100) prior to being discharged into the ambient air. When it is exhausting through emission point EP100, the Stationary Combustion Turbine (EU100) is classified as a *combined heat and power combustion turbine* under 40 CFR Part 60, Subpart KKKK and a *cogeneration cycle stationary combustion turbine* under 40 CFR Part 63, Subpart YYYY.

B. The Combustion Turbine (EU100) shall exhaust to either emission point EP100 or emission point EP101, but not to both emission points at the same time. When the Combustion Turbine (EU100) is exhausting through emission point EP100, only natural gas shall be burned in the turbine. Prior to burning any other fuel in the Combustion Turbine (EU100) when the turbine is exhausting through emission point EP100, the owner or operator shall obtain a modification to this construction permit.
    (1) Each time the Combustion Turbine (EU100) operates, the owner or operator shall maintain a record of the fuel(s) burned in the turbine. This record shall include the date and times of operation, the identification of the fuel(s) burned, and which emission point the turbine was exhausting to.

C. The Duct Burner (EU101) shall only be in operation when the Combustion Turbine (EU100) is in operation.
    (1) The owner or operator shall maintain the following daily records:
        i. The date the Duct Burner was in operation; and
        ii. A statement that the Combustion Turbine (EU100) was in operation at the same time.

Requirements from NSPS Subpart KKKK

D. In accordance with §60.4333 (a), the owner or operator shall operate and maintain the Combustion Turbine (EU100), the Duct Burner (EU101), the Dry Low NOx Combustion System (CE101), the Low NOx Burner (CE102), and the Catalytic Oxidation system (CE100), and any monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

E. In accordance with §60.4340 (b), the owner or operator shall install, operate and maintain a Continuous Emission Monitoring System for NOx emissions on emission point EP100. The requirements for the NOx CEMS are stated in the CEMS requirements below.

F. In accordance with §60.4365, the owner or operator is not required to monitor the sulfur content of the natural gas burned in the Combustion Turbine (EU100), provided it can demonstrate that the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract, specifying that the maximum total sulfur content of the natural gas is 20 grains of sulfur or less, has potential emissions of less than 0.060 lb SO_2 per MMBTU heat input.

(1) The owner or operator shall maintain a record of the current purchase contract, tariff sheet or transportation contract for the natural gas burned in the Combustion Turbine (EU100).

G. In accordance with §60.4375, for Combustion Turbine (EU100), the owner or operator must submit reports of excess emissions and monitor downtime in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown and malfunction. See CEMS Condition D.

Requirements from NESHAP Subpart YYYY

H. In accordance with Table 2 of Subpart YYYY, the owner or operator shall maintain the 4-hour rolling average of the temperature of the inlet of the Catalytic Oxidation System (CE100) within the range suggested by the catalyst manufacturer.
   (1) The temperature of the inlet of the Catalytic Oxidation System (CE100) must be monitored continuously. The temperature data that is recorded during turbine startup is not required to be used. Per §63.6175, startup ends when the turbine has reached stable conditions or after 3 hours, whichever is less.
   (2) The owner or operator must develop and implement a quality control program for the continuous temperature monitoring system in accordance with §63.6125(e).

I. The owner or operator shall submit all notifications as required by §63.6145 of Subpart YYYY, including:
   (1) Initial Notification - §63.6145 (c)
   (2) Notification of Compliance Status - §63.6145 (f)

J. The owner or operator must submit all applicable reports in accordance with §63.6150. Reports shall be submitted to the Department and to the U.S. EPA. As required, the reports sent to U.S. EPA shall be done by using the Compliance and Emissions Data Reporting Interface (CEDRI) website.

K. The owner or operator must submit a semiannual compliance report in accordance with §63.6150(a). These reports shall cover the periods from January 1 to June 30 and from July 1 to December 31 of each year. The reports shall be submitted by July 31 or January 31, whichever is the first date after the end of the reporting period. The report shall contain the following information:
   (1) Company name and address;
   (2) Statement by a responsible official, with the official's name, title, and signature, certifying the accuracy of the content of the report;
   (3) Date of report and beginning and ending dates of the reporting period;
   (4) For each deviation from an emission limit or operating limit:
      i. The number of deviations. Report the start date and time, the duration, the cause of the deviation and the corrective action taken.
      ii. An identification of the source, an estimate of the quantity of each regulated pollutant emitted over an emission limit and a description of the method used to estimate emissions.
      iii. Information on the number, duration and cause of monitor downtime incidents and the corrective action taken.
      iv. The total operating time of the Combustion Turbine (EU100) during the reporting period.

L. The owner or operator shall keep records as required by §63.6155.

Other Requirements

M. Prior to the start of operation of the Combustion Turbine (EU100), the emission units listed in the table below shall be permanently shut down.

Equipment to be Shutdown

EP ID	Construction Permit Number	Equipment Description
80	95-A-373-P4	Unit 8 Cyclone Boiler
88	15-A-459	Storage Silo for Activated Carbon
320	01-A-193-S2	Conveyor & K-Conveyor Discharge/Unit 8 Surge Bin
		Conveyor & K-Conveyor Discharge/Unit 7 Surge Bin
		Unit 7 Coal Crusher & Bypass Feeder
		Unit 8 Coal Crusher Feeders 8A & 8B
322	80-A-006-S3	Unit 7 Coal Crusher/Lump Break
		Unit 8A and 8B Coal Crushers
		Unit 7 & 8 Crusher and Coal Bypass Chute Discharge
330	13-A-153	Truck Unloading Track Hopper A - Conveyor
330A	13-A-154	Truck Loading Track Hopper A - Conveyor
333	80-A-007-S3	Track Hopper Feeders A&B/A Conveyor Load
		A-Conveyor Discharge/C-Conveyor Load
		C-Conveyor Discharge/K-Conveyor Load
		L-Conveyor Discharge/E-Conveyor Load
341	00-A-638-S1	E-Conveyor Discharge/ Unit 8 Coal Bunkers 8A, 8B, 8C
		G-Conveyor Discharge/Truck Loading & Unloading
		E-Conveyor Discharge/ F Conveyor Load
		F-Conveyor Discharge/Unit 7 Coal Bunkers 7A & 7B
810	00-A-639-S1	Fly Ash Filter/Separator
814	01-A-218-S1	Fly Ash Silo

No later than 30 days after the startup of the Combustion Turbine (EU100), the owner or operator shall request that the air construction permits be rescinded.

N. The owner or operator shall develop an operating and maintenance plan for the Catalytic Oxidation System (CE100), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(1) The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Catalytic Oxidation System (CE100).

O. The owner or operator shall develop an operating and maintenance plan for the Combustion Turbine's Dry Low NOx Combustion (CE101), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(1) The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Combustion Turbine's Dry Low NOx Combustion (CE101).

P. The owner or operator shall develop an operating and maintenance plan for the Duct Burner's Low NOx Burner (CE102), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(1) The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Duct Burner's Low NOx Burner (CE102).

Q. The owner or operator shall demonstrate compliance with the annual NOx limit in the following manner:

(1) Calculate the hourly NOx emission rate from Emission Point EP100 in pounds per million BTU by the following equation:

$E=K*C_h*F * (20.9/20.9-\%O2)$

Where:
E = NOx emission rate in lb/MMBTU
K = 1.194E-7 (lb/dscf)/ppm NOx
C_h = Hourly average NOx concentration during unit operation, ppm
F = Fuel-specific oxygen-based F factor, dry basis, from 40 CFR 60, Appendix A, Method 19 (scf/MMBTU)
O_2 = oxygen content of stack gas on a dry basis

(2) Calculate the NOx emission rate from Emission Point EP100 in pounds per hour by the following equation:

ER = E x HI

Where
ER = hourly NOx emission rate, lbs/hr
E = hourly NOx emission rate in lb/MMBTU
HI = hourly heat input of Combustion Turbine and Duct Burner (MMBTU/hr), determined by the fuel flow meter and the heat content of the natural gas.

(3) For Emission Point EP100, calculate the daily value of NOx emissions (pounds and tons per day) from the total of the hourly NOx emissions measured. Using the daily values in tons of NOx per day, the owner or operator shall convert the calculated values to tons of NOx per year, on a rolling 365-day basis. Emissions from both EP100 and EP101 should be totaled and applied toward the annual NO_X emission limit.

Authority for Requirement: DNR Construction Permit 25-A-013-S1
40 CFR 60 Subpart KKKK
40 CFR 63 Subpart YYYY
567 IAC 23.1(2)"aaaa"
567 IAC 23.1(4)"cy"

Acid Rain:

The facility (plant number 70-01-011) is considered an affected source under 40 CFR 72, 73, 75, 76, 77, and 78 definitions as emission units at this facility are subject to the acid rain emission reduction requirements or the acid rain emission limitations, as adopted by the Department by reference (See 567 IAC 24.120 – 567 IAC 24.148). This emission unit is subject to the SO_2 allowance allocation, NO_x emission limitations, and monitoring provisions of the federal acid rain program.

Authority for Requirement: DNR Construction Permit 25-A-013-S1
40 CFR Parts 72, 73, 75, 76, 77, 78

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 130
Stack Opening, (inches, dia.): 110
Exhaust Flow Rate (scfm): 191,027
Exhaust Temperature (°F): 253
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 25-A-013-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Compliance Demonstration:

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
PM – State	Performance Test(1)	Initial and once every 3 calendar years	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51, Appendix M Method 202
SO_2	Performance Test(1)	Initial	1 hour	40 CFR 60, Appendix A, Method 6C
NO_x	Performance Test(1)	Initial(2)	1 hour	40 CFR 60, Appendix A, Method 7E
	CEMS	On-going	NA	40 CFR, Appendix B, Performance Specification 2
CO	Performance Test(1)	Initial and once every 3 calendar years	1 hour	40 CFR 60, Appendix A, Method 10
HAP - formaldehyde	Performance Test(3)	Initial and annual	1 hour	40 CFR 63, Appendix A, Method 320

(1) For a combined heat and power (CHP) turbine system with a supplemental heat (duct burner), NOx emissions must be measured after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test. PM, SO_2, and CO emissions must be measured after the duct burner unless another location is approved by the Department.
(2) Initial testing shall be conducted in accordance with §60.4400 or §60.4405.
(3) Test for formaldehyde shall be conducted in accordance with §63.6120 and Table 3 to Subpart YYYY. The test must be conducted within 10 percent of a 100-percent load. The limit applies only to the turbine; however, per §63.6092, the facility is allowed to meet required emission limitation with the duct burners in operation.
Authority for Requirement: DNR Construction Permit 25-A-013-S1

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Continuous Emissions Monitoring:

A. The owner or operator shall demonstrate compliance with the NOx emission limits (both the NSPS limit and annual limit) through the use of a continuous emission monitoring system (CEMS). The owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring emissions of oxides of nitrogen discharged from the emission point to the atmosphere.

B. In accordance with §60.4335(b), the CEMS shall consist of a NOx monitor and a diluent gas (oxygen (O2) or carbon dioxide (CO2)) monitor, to determine the hourly NOx emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBTU).

C. In accordance with §60.4345, the NOx CEMS shall meet the following requirements:
   (1) Each NOx diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in Part 60 Appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Alternatively, a NOx diluent CEMS that is installed and certified according to Appendix A of part 75 of this chapter is acceptable for use under Subpart KKKK. The annual relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBTU basis.
   (2) As specified in §60.13(e)(2), during each full unit operating hour, both the NOx monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hour, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NOx emission rate for the hour.
   (3) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to manufacturer's instructions. Alternatively, with the Department's approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to 40 CFR Part 75 are acceptable to use under subpart KKKK.
   (4) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. For the CEMS and fuel flow meters, the owner or operator may, with the Department's approval, satisfy the requirements of the paragraph by implementing the QA program and plan described in Section 1 of Appendix B to 40 CFR 75.

D. In accordance with §60.4350, for the purposes of identifying excess emissions of the NOx ppm emission standard:

(1) All CEMS data must be reduced to hourly averages as specified in §60.13(h).
(2) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NOx and diluent monitors, the data acquisition and handling system must calculate and record the hourly NOx emission rate in units of ppm or lb/MMBTU, using the appropriate equation from Method 19 of 40 CFR Part 60, Appendix A. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O_2 (of the hourly average CO_2 concentration is less than 1.0 percent CO_2), a diluent cap value of 19.0 percent O_2 or 1.0 percent CO_2 (as applicable) may be used in the emission calculations.
(3) The hourly average NOx emission rate shall be determined in ppm. The calculated hourly average emission rate shall be used to assess excess emissions on a 30 unit operating day rolling average basis.
    a. In accordance with §63.4380, an excess emissions is any unit operating period in which the 30-day rolling average NOx emission rate exceeds 25 ppm @ 15% oxygen. A *30-day rolling average NOx emission rate* is the arithmetic average of all hourly NOx emission data in ppm measured by the continuous emission monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30-day average is calculated each unit operating day as the average of all hourly NOx emissions rates for the preceding 30 unit operating days if a valid NOx emission rate is obtained for at least 75 percent of all operating hours.
    b. A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NOx concentration, CO_2 or O_2 concentration or fuel flow rate.

E. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audit (CGA) and annual relative accuracy test audit (RATA). Annual RATAs and quarterly CGAs are required to be conducted on all CEMS required by this permit. The reports shall be reported in the units of the standards. If requested by the Department, the owner or operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.
F. The following data requirements shall apply to all CEMS for non-NSPS emission standards (e.g. annual NOx limit) in this permit:
    (1) The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit, including periods of startup, shutdown, malfunction or emergency conditions except for CEM breakdowns and repairs. Data is recorded during calibration checks and zero and span adjustments.
    (2) The 1-hour average NOx emission rates measured by the CEMS and the fuel flow rate shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.
    (3) For each hour of missing emission data (i.e. NOx), the owner or operator shall substitute data by:
        a. If the quarterly monitor data availability is equal to or greater than 95%, the owner or operator shall calculate substitute data by means of the

automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

i. For a missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

ii. For a missing data period greater than 24 hours, substitute the greater of:

- The 90th percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b. If the quarterly monitor data availability is at least 90% but less than 95%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

i. For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

ii. For the missing data period of more than 8 hours, substitute the greater of:

- The 95th percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c. If the quarterly monitor data availability is less than 90%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

G. To calculate hourly and annual NOx emissions and to show compliance with the annual NOx limit, the owner or operator shall use a continuous gas fuel flow meter. The flow meter shall be installed, operated, calibrated and maintained in accordance with the directions of the manufacturer.

(1) The owner or operator shall determine the fuel specific oxygen based F factor, dry basis (scf/MMBTU) using Method 19 from Appendix A of 40 CFR Part 60. This F factor shall be determined at least annually. The owner or operator shall obtain the ultimate analysis and the heat content analysis of the natural gas burned from the fuel supplier.

(2) Each fuel flow meter shall be calibrated prior to determining the F factor. The fuel meter calibration shall meet the requirements of Method 2A, Section 6.1 (Appendix A of 40 CFR Part 60).

(3) The owner or operator shall maintain records on the F factors determined and the

calibration conducted on the gas fuel flow meter.

Authority for Requirement: DNR Construction Permit 25-A-013-S1
40 CFR 60 Subpart KKKK
567 IAC 23.1(2)"aaaa"

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 101 (Bypass) (Future State)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
100	Unit 10 Combustion Turbine	CE101: Dry Low NOx Combustion	Natural Gas	323.68 MMBTU/hr heat input 45 MW electrical output	25-A-014-S1

Continuous Emissions Monitors ID Numbers: ME100 (NO_x), ME101 (CO_2)

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permit 25-A-014-S1
567 IAC 23.3(2)"d"

[(1)] An exceedance of the indicator opacity of "no visible emissions" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: $PM_{2.5}$
Emission Limit(s): 2.7 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-014-S1

Pollutant: PM_{10}
Emission Limit(s): 2.7 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-014-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 2.7 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 25-A-014-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 1.4 lb/hr, 0.060 lb/MMBtu
Authority for Requirement: DNR Construction Permit 25-A-014-S1
567 IAC 23.1(2)"aaaa"
40 CFR 60 Subpart KKKK

Pollutant: Nitrogen Oxides (NOx)
Emission Limit(s): 211.3 ton/yr[(2)], 25 ppm @ 15% O_2 or 1.2 lb/MWh[(3)], 96 ppm @15% O_2 or 4.7 lb/MWh[(4)]
Authority for Requirement: DNR Construction Permit 25-A-014-S1
567 IAC 23.1(2)"aaaa"
40 CFR 60 Subpart KKKK

[(2)] Annual NOx emission limit is based on a 365-day rolling average. The limit applies to both EP100 and EP101 and is based on the short term limit and the maximum capacity of the turbine and duct burner. The annual NOx emission limit applies at all time, including startup, shutdown, and malfunctions.
[(3)]Emission limit when the turbine is operating at 75% of base load or greater (i.e. ≥ 242.76 MMBTU heat input). In accordance with §60.4350(g), compliance with NOx emission limit is based on a rolling 4-hour average. The emission limit applies at all times during this operating condition, including startup, shutdown and malfunctions.
[(4)] Emission limit when the turbine is operating at less than 75% of the base load (i.e. <242.76 MMBTU heat input). In accordance with §60.4350(g), compliance with NOx emission limit is based on a rolling 4-hour average. The emission limit applies at all times during this operating condition, including startup, shutdown and malfunctions.

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 21.8 lb/hr
Authority for Requirement: DNR Construction Permit 25-A-014-S1

Pollutant: Single HAP (Formaldehyde)
Emission Limit(s): 91 ppb_{vd} @ 15% O_2[(5)]
Authority for Requirement: DNR Construction Permit 25-A-014-S1
567 IAC 23.1(4)"cy"
40 CFR 63 Subpart YYYY

[(5)]Limit applies at all times except during turbine startup. The period of time for turbine startup is subject to the limits specified in the definition of startup in §63.6175. The limit only applies when the turbine burns natural gas.

Acid Rain Limits
Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: Sulfur Dioxide Allowances
Authority for Requirement: 567 IAC 24.108(7) (See attached Phase II Acid Rain Permit)

Cross-State Air Pollution Rule (CSAPR) (aka Transport Rule (TR)) Limit
Pollutant: Nitrogen Oxides (NO_x) Annual, Nitrogen Oxides (NOX) Ozone Season Group 2, Sulfur Dioxide (SO_2) Group 1
Emission Limits: Nitrogen Oxides and Sulfur Dioxide Allowance
Authority for Requirement: 40 CFR Part 97 (See Appendix B for requirements)

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The emission unit covered by this permit is a Stationary Combustion Turbine (EU100). When it is exhausting through emission point EP101, the Stationary Combustion Turbine (EU100) is classified as a *simple cycle combustion turbine* under 40 CFR Part 60, Subpart KKKK and a *simple cycle stationary combustion turbine* under 40 CFR Part 63,

Subpart YYYY.

B. The Combustion Turbine (EU100) shall exhaust to either emission point EP100 or emission point EP101, but not to both emission points at the same time. When the Combustion Turbine (EU100) is exhausting through emission point EP101, only natural gas shall be burned in the turbine. Prior to burning any other fuel in the Unit 10 Combustion Turbine (EU100) when the turbine is exhausting through emission point EP101, the owner or operator shall obtain a modification to this construction permit.
    (1) Each time the Unit 10 Combustion Turbine (EU100) operates, the owner or operator shall maintain a daily record of the fuel(s) burned in the turbine. This record shall include the date and times of operation, the identification of the fuel(s) burned, and which emission point the turbine was exhausting to.

Requirements from NSPS Subpart KKKK

C. In accordance with §60.4333 (a), the owner or operator shall operate and maintain the Unit 10 Combustion Turbine (EU100), the Dry Low NOx Combustion System (CE101), and any monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

D. In accordance with §60.4340 (b), the owner or operator shall install, operate and maintain a Continuous Emission Monitoring System for NOx emissions on emission point EP101. The requirements for the NOx CEMS are stated below.

E. In accordance with §60.4365, the owner or operator is not required to monitor the sulfur content of the natural gas burned in the Unit 10 Combustion Turbine (EU100), provided it can demonstrate that the fuel quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract, specifying that the maximum total sulfur content of the natural gas is 20 grains of sulfur or less, has potential emissions of less than 0.060 lb SO_2 per MMBTU heat input.
    (1) The owner or operator shall maintain a record of the current purchase contract, tariff sheet or transportation contract for the natural gas burned in the Unit 10 Combustion Turbine (EU100).

F. In accordance with §60.4375, for the Unit 10 Combustion Turbine (EU100), the owner or operator must submit reports of excess emissions and monitor downtime in accordance with §60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown and malfunction. See CEMs requirement D.

Requirements from NESHAP Subpart YYYY

G. In accordance with §63.6120(e), because the Unit 10 Combustion Turbine (EU100) is not equipped with an oxidation catalyst when it exhausts to emission point EP101, the owner or operator must submit a petition to the Department for operating limitations that will be monitored to demonstrate compliance with the formaldehyde emission limit listed above. These operating parameters must be measured during the initial performance test and continuously monitored thereafter. Alternatively, the owner or operator may petition the Department for no additional operating limitations. The initial performance test must not be conducted until the Department has approved the submitted petition. The petition shall be submitted to the Department no later than 180 days prior to the scheduled date of the initial performance test.
    (1) If seeking approval of operating limits, the owner or operator must submit to the

Department the information described in §63.6120(f).

(2) If seeking approval of no operating limits, the owner or operator must submit to the Department the information described in §63.6120(g).

H. In accordance with §63.6125(b), the owner or operator must continuously monitor any parameters specified in the approved petition submitted to the Department.

I. The owner or operator shall submit all notifications as required by §63.6145 of Subpart YYYY, including:

(1) Initial Notification - §63.6145 (c)

(2) Notification of Compliance Status - §63.6145 (f)

J. The owner or operator must submit all applicable reports in accordance with §63.6150. Reports shall be submitted to the Department and to the U.S. EPA. As required, the reports sent to U.S. EPA shall be done by using the Compliance and Emissions Data Reporting Interface (CEDRI) website.

K. The owner or operator must submit a semiannual compliance report in accordance with §63.6150(a). These reports shall cover the periods from January 1 to June 30 and from July 1 to December 31 of each year. The reports shall be submitted by July 31 or January 31, whichever is the first date after the end of the reporting period. The report shall contain the following information:

(1) Company name and address;

(2) Statement by a responsible official, with the official's name, title, and signature, certifying the accuracy of the content of the report;

(3) Date of report and beginning and ending dates of the reporting period;

(4) For each deviation from an emission limit or operating limit:

i. The number of deviations. Report the start date and time, the duration, the cause of the deviation and the corrective action taken.

ii. An identification of the source, an estimate of the quantity of each regulated pollutant emitted over an emission limit and a description of the method used to estimate emissions.

iii. Information on the number, duration and cause of monitor downtime incidents and the corrective action taken.

iv. The total operating time of the Combustion Turbine (EU100) during the reporting period.

L. The owner or operator shall keep records as required by §63.6155.

Other Requirements

M. Prior to the start of operation of the Combustion Turbine (EU100), the emission units listed in Table 8 shall be permanently shut down.

Table 1-Equipment to be Shutdown

EP ID	Construction Permit Number	Equipment Description
80	95-A-373-P4	Unit 8 Cyclone Boiler
88	15-A-459	Storage Silo for Activated Carbon
320	01-A-193-S2	Conveyor & K-Conveyor Discharge/Unit 8 Surge Bin
		Conveyor & K-Conveyor Discharge/Unit 7 Surge Bin
		Unit 7 Coal Crusher & Bypass Feeder
		Unit 8 Coal Crusher Feeders 8A & 8B
322	80-A-006-S3	Unit 7 Coal Crusher/Lump Break
		Unit 8A and 8B Coal Crushers

		Unit 7 & 8 Crusher and Coal Bypass Chute Discharge
330	13-A-153	Truck Unloading Track Hopper A - Conveyor
330A	13-A-154	Truck Loading Track Hopper A - Conveyor
333	80-A-007-S3	Track Hopper Feeders A&B/A Conveyor Load
		A-Conveyor Discharge/C-Conveyor Load
		C-Conveyor Discharge/K-Conveyor Load
		L-Conveyor Discharge/E-Conveyor Load
341	00-A-638-S1	E-Conveyor Discharge/ Unit 8 Coal Bunkers 8A, 8B, 8C
		G-Conveyor Discharge/Truck Loading & Unloading
		E-Conveyor Discharge/ F Conveyor Load
		F-Conveyor Discharge/Unit 7 Coal Bunkers 7A & 7B
810	00-A-639-S1	Fly Ash Filter/Separator
814	01-A-218-S1	Fly Ash Silo

No later than 30 days after the startup of the Combustion Turbine (EU100), the owner or operator shall request that the air construction permits be rescinded.

N. The owner or operator shall develop an operating and maintenance plan for the Unit 10 Combustion Turbine's Dry Low NOx Combustion (CE101), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(1) The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Unit 10 Combustion Turbine's Dry Low NOx Combustion (CE101).

O. The owner or operator shall demonstrate compliance with the annual NOx limit in the following manner:

(1) Calculate the hourly NOx emission rate from Emission Point EP101 in pounds per million BTU by the following equation:

$E=K*C_h*F * (20.9/20.9-\%O2)$

Where:
E = NOx emission rate in lb/MMBTU
K = 1.194E-7 (lb/dscf)/ppm NOx
C_h = Hourly average NOx concentration during unit operation, ppm
F = Fuel-specific oxygen-based F factor, dry basis, from 40 CFR 60, Appendix A, Method 19 (scf/MMBTU)
O_2 = oxygen content of stack gas on a dry basis

(2) Calculate the NOx emission rate from Emission Point EP101 in pounds per hour by the following equation:

ER = E x HI

Where:
ER = hourly NOx emission rate
E = hourly NOx emission rate in lb/MMBTU
HI = hourly heat input of Combustion Turbine (MMBTU/hr), determined by the fuel flow meter and the heat content of the natural gas.

(3) For Emission Point EP101, calculate the daily value of NOx emissions (pounds and tons per day) from the total of the hourly NOx emissions measured. Using the daily values in tons of NOx per day, the owner or operator shall convert the calculated values to tons of NOx per year, on a rolling 365-day basis. Emissions from both EP100 and EP101 should be totaled and applied toward the annual NO_X emission limit.

Authority for Requirement: DNR Construction Permit 25-A-014-S1
40 CFR 60 Subpart KKKK
40 CFR 63 Subpart YYYY
567 IAC 23.1(2)"aaaa"
567 IAC 23.1(4)"cy"

Acid Rain:

The facility (plant number 70-01-011) is considered an affected source under 40 CFR 72, 73, 75, 76, 77, and 78 definitions as emission units at this facility are subject to the acid rain emission reduction requirements or the acid rain emission limitations, as adopted by the Department by reference (See 567 IAC 24.120 – 567 IAC 24.148). This emission unit is subject to the SO_2 allowance allocation, NO_x emission limitations, and monitoring provisions of the federal acid rain program.

Authority for Requirement: DNR Construction Permit 25-A-014-S1
40 CFR Parts 72, 73, 75, 76, 77, 78

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 130
Stack Opening, (inches, dia.): 110
Exhaust Flow Rate (scfm): 167,741
Exhaust Temperature (°F): 1,044
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 25-A-014-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
PM – State	Performance Test	Initial[(1)] and once every 3 calendar years	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51, Appendix M Method 202
SO_2	Performance Test	Initial	1 hour	40 CFR 60, Appendix A, Method 6C
NO_x	Performance Test	Initial[(1)]	1 hour	40 CFR 60, Appendix A, Method 7E
	CEMS	On-going	NA	40 CFR, Appendix B, Performance Specification 2
CO	Performance Test	Initial and annual	1 hour	40 CFR 60, Appendix A, Method 10
HAP - formaldehyde	Performance Test[(2)]	Initial and annual	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18

[(1)]Initial testing shall be conducted in accordance with §60.4400 or §60.4405.

[(2)]Test for formaldehyde shall be conducted in accordance with §63.6120 and Table 3 to Subpart YYYY. The test must be conducted within 10 percent of a 100-percent load. Test shall be done burning natural gas.

Authority for Requirement: DNR Construction Permit 25-A-014

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Continuous Monitoring Systems (CMS)

A. The owner or operator shall demonstrate compliance with the NOx emission limit (both the NSPS limit and annual limit) through the use of a continuous emission monitoring system (CEMS). The owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring emissions of oxides of nitrogen discharged from the emission point to the atmosphere.
B. In accordance with §60.4335, the CEMS shall consist of a NOx monitor and a diluent gas (oxygen (O2) or carbon dioxide (CO2)) monitor, to determine the hourly NOx emission rate in parts per million (ppm) or pounds per million British thermal units (lb/MMBTU).
C. In accordance with §60.4345, the NOx CEMS shall meet the following requirements:
    (1) Each NOx diluent CEMS must be installed and certified according to Performance Specification 2 (PS 2) in Part 60 Appendix B, except the 7-day calibration drift is based on unit operating days, not calendar days. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Alternatively, a NOx diluent CEMS that is installed and certified according to Appendix A of part 75 of this chapter is acceptable for use under

Subpart KKKK. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBTU basis.

(2) As specified in §60.13(e)(2), during each full unit operating hour, both the NOx monitor and the diluent monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hour, at least one valid data point must be obtained with each monitor for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required for each monitor to validate the NOx emission rate for the hour.

(3) Each fuel flowmeter shall be installed, calibrated, maintained, and operated according to manufacturer's instructions. Alternatively, with the Department's approval, fuel flowmeters that meet the installation, certification, and quality assurance requirements of appendix D to 40 CFR Part 75 are acceptable to use under subpart KKKK.

(4) The owner or operator shall develop and keep on-site a quality assurance (QA) plan for all of the continuous monitoring equipment. For the CEMS and fuel flow meters, the owner or operator may, with the Department's approval, satisfy the requirements of the paragraph by implementing the QA program and plan described in Section 1 of Appendix B to 40 CFR 75.

D. In accordance with §60.4350, for the purposes of identifying excess emissions of the NOx ppm emission standard:

(1) All CEMS data must be reduced to hourly averages as specified in §60.13(h).

(2) For each unit operating hour in which a valid hourly average, as described in §60.4345(b), is obtained for both NOx and diluent monitors, the data acquisition and handling system must calculate and record the hourly NOx emission rate in units of ppm or lb/MMBTU, using the appropriate equation from Method 19 of 40 CFR Part 60, Appendix A. For any hour in which the hourly average O_2 concentration exceeds 19.0 percent O2 (of the hourly average CO2 concentration is less than 1.0 percent CO2), a diluent cap value of 19.0 percent O2 or 1.0 percent CO2 (as applicable) may be used in the emission calculations.

(3) The hourly average NOx emission rate shall be determined in ppm. The calculated hourly average emission rate shall be used to assess excess emissions on a 4-hour rolling average basis.

a. In accordance with §63.4380, an excess emissions is any unit operating period in which the 4-hour rolling average NOx emission rate exceeds 74 ppm @ 15% oxygen. A *4-hour rolling average NOx emission rate* is the arithmetic average of the average NOx emission rate in ppm measured by the continuous emission monitoring equipment for a given hour and the three unit operating hour average NOx emission rates immediately preceding that unit operating hour. Calculate the rolling average if a valid NOx emission rate is obtained for at least 3 of the 4 hours.

b. A period of monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NOx concentration, CO_2 or O_2 concentration or fuel flow rate.

E. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audit (CGA) and annual relative accuracy test audit (RATA). Annual RATAs and quarterly CGAs are required to be conducted on all CEMS required by this permit. The reports shall be reported in the units of the standards. If requested by the Department, the owner or operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

F. The following data requirements shall apply to all CEMS for non-NSPS emission standards (e.g. annual NOx limit) in this permit:

(1) The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit, including periods of startup, shutdown, malfunction or emergency conditions except for CEM breakdowns and repairs. Data is recorded during calibration checks and zero and span adjustments.

(2) The 1-hour average NOx emission rates measured by the CEMS and the fuel flow rate shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.

(3) For each hour of missing emission data (i.e. NOx), the owner or operator shall substitute data by:

a. If the quarterly monitor data availability is equal to or greater than 95%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

i. For a missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

ii. For a missing data period greater than 24 hours, substitute the greater of:

- The 90th percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b. If the quarterly monitor data availability is at least 90% but less than 95%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

i. For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

ii. For the missing data period of more than 8 hours, substitute the greater of:

- The 95th percentile hourly pollutant concentration recorded

by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c. If the quarterly monitor data availability is less than 90%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

G. To calculate hourly and annual NOx emissions and to show compliance with the annual NOx limit, the owner or operator shall use a continuous gas fuel flow meter and a continuous liquid fuel flow meter. The flow meters shall be installed, operated, calibrated and maintained in accordance with the directions of the manufacturer.

(1) For each fuel flow meter, the owner or operator shall determine the fuel specific oxygen based F factor, dry basis (scf/MMBTU) using Method 19 from Appendix A of 40 CFR Part 60. This F factor shall be determined at least annually. The owner or operator shall obtain the ultimate analysis and the heat content analysis of the natural gas and of the distillate oil burned from the fuel supplier.

(2) Each fuel flow meter shall be calibrated prior to determining the F factor. The fuel meter calibration shall meet the requirements of Method 2A, Section 6.1 (Appendix A of 40 CFR Part 60).

(3) The owner or operator shall maintain records on the F factors determined and the calibration conducted on the gas and liquid fuel flow meters.

Authority for Requirement: DNR Construction Permit 25-A-014

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 21 (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
20	Rail Hoppers A, B, &C	CE21: Baghouse	Coal	1,400 tons/hr	93-A-288-S4
21	Feeder Belt-A	CE21: Baghouse CE24A: Dust Suppression		700 tons/hr	
22	Feeder Belt-B			700 tons/hr	
23	Transfer Conveyor			1,400 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 93-A-288-S4
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.036 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-288-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.86 lb/hr; 0.56 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-288-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf; 0.86 lb/hr; 0.56 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-288-S4

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit shall not operate more than 1,295 hours in any rolling twelve-month period.

B. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
C. The owner or operator shall develop and maintain an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-288-S4

Reporting & Record Keeping:

A. The owner or operator shall maintain the following monthly records:
i. the number of hours that the emissions unit operated; and
ii. the rolling twelve-month total number of hours that the emissions unit operated.
B. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
C. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 93-A-288-S4

NSPS and NESHAP Requirements:

This unit is subject to NSPS Subpart Y (§60.250) – Standards of Performance for Coal Preparation Plants and the General Provisions of Subpart A.

Authority for Requirement: DNR Construction Permit 93-A-288-S4

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 25.6
Stack Opening (inches): 420 in. x 360 in.
Exhaust Temperature (^{o}F): Ambient
Exhaust Flowrate (scfm): 35,693
Discharge Style: Vents Inside
Authority for Requirement: DNR Construction Permit 93-A-288-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 22 (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
20	Rail Hoppers A, B, & C	CE21: Baghouse	Coal	1,400 ton/hr	93-A-289-S4
21	Feeder Belt A	CE21: Baghouse CE24A: Dust Suppression		700 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 93-A-289-S4
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.036 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-289-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 1.24 lb/hr; 0.80 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-289-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf; 1.24 lb/hr; 0.80 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-289-S4

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit shall not operate more than 1,295 hours in any rolling twelve-month period.
B. The differential pressure drop across the baghouse shall be maintained between 2 and 10 inches water column while the equipment is in operation.

C. The owner or operator shall develop and maintain an operating and maintenance plan for the baghouse, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-289-S4

Reporting & Record Keeping:

A. The owner or operator shall maintain the following monthly records:
i. the number of hours that the emissions unit operated; and
ii. the rolling twelve-month total number of hours that the emissions unit operated.

B. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

C. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.

D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 93-A-289-S4

NSPS and NESHAP Requirements:

This unit is subject to NSPS Subpart Y (§60.250) – Standards of Performance for Coal Preparation Plants and the General Provisions of Subpart A.

Authority for Requirement: DNR Construction Permit 93-A-289-S4

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 25.6
Stack Opening (inches): 384 in. x 384 in.
Exhaust Temperature (°F): Ambient
Exhaust Flowrate (scfm): 32,661
Discharge Style: Vents Inside
Authority for Requirement: DNR Construction Permit 93-A-289-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 23A (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
24A	Transfer Conveyor Discharge/ Radial Stacker Load	CE24A: Dust Suppression	Coal	1,400 tons/hr	93-A-290-S3

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 93-A-290-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0725 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-290-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.60 lb/hr; 0.40 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-290-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf; 0.60 lb/hr; 0.40 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-290-S3
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. This emissions unit shall not operate more than 1,295 hours in any rolling twelve-month period.

B. The owner or operator shall develop an operating and maintenance plan for the dust suppression system including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-290-S3

Reporting & Record Keeping:

A. The owner or operator shall maintain the following monthly records:
   i. the number of hours that the emissions unit operated; and
   ii. the rolling twelve-month total number of hours that the emissions unit operated.
B. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the dust suppression system.

Authority for Requirement: DNR Construction Permit 93-A-290-S3

NSPS and NESHAP Requirements:

This unit is subject to NSPS Subpart Y (§60.250) – Standards of Performance for Coal Preparation Plants and the General Provisions of Subpart A.

Authority for Requirement: DNR Construction Permit 93-A-290-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Discharge Style: Vents Inside
Authority for Requirement: DNR Construction Permit 93-A-290-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 24 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
26	Radial Stacker Discharge	Coal	1,400 tons/hr	13-A-139
27	Coal Pile		23 Acres	
27A	Coal Pile Bulldozing		3 Bulldozers	
342	G-Conveyor Discharge/ Truck Loading and Unloading		50 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: DNR Construction Permit 13-A-139
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$) for Radial Stack Discharge, EU26
Emission Limit: 0.0403 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Pollutant: Particulate Matter ($PM_{2.5}$) for Coal Storage Pile, EU27
Emission Limit: For this emissions unit the limits are expressed in the form of a work practice instead of an emission limit. See the Operating Limits section of this permit for the work practice requirements.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Pollutant: Particulate Matter ($PM_{2.5}$) for Coal Pile Bulldozing, EU27A
Emission Limit: 0.8877 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Pollutant: Particulate Matter ($PM_{2.5}$) for Coal Pile Truck Unloading, EU342
Emission Limit: 0.0014 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. Coal Pile Bulldozing (EU27A) is limited to operating between 6:00 AM and 12:00 midnight.
B. Coal Pile Truck Unloading (EU342) is limited to operating between 8:00 AM and 4:00 PM.
C. The operation of the Radial Stacker Discharge (EU26) is limited to a maximum of 1,295 hours in any rolling 12-month period.
D. The ground surface area of the coal pile (EU27) shall not exceed 20 acres (871,200 square feet).

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when the following emissions units operated: Radial Stacker Discharge (EU26), Coal Pile Bulldozing (EU27A) and Coal Pile Truck Unloading (EU342). This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall maintain the following monthly records on the Radial Stacker Discharge (EU26):
    i. the number of hours that the emissions unit operated; and
    ii. the rolling 12-month total of the number of hours that the emissions unit operated.
C. The owner or operator shall maintain records on the silt content and the moisture content of the material handled in these emissions units. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.

D. The owner or operator shall maintain records on the surface area of the coal pile. The coal pile shall be measured semi-annually and information on the size of the coal pile shall be submitted with the facility's semi-annual reports.

E. For the Radial Stacker Discharge (EU26), the $PM_{2.5}$ emission rates established in the Emission Limits section above are based on the maximum capacity of the unit and the following equation and parameters:

$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

Where:

E = emission factor in lbs $PM_{2.5}$/ ton material

k = particle size multiplier, 0.053 for $PM_{2.5}$

U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

M = minimum material moisture content, 10.35%, provided by applicant

F. For the Coal Pile Truck Unloading (EU342), the $PM_{2.5}$ emission rates established in the Emission Limits section of this permit are based on the maximum capacity of the unit and the following equation and parameters:

$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

Where:

E = emission factor in lbs $PM_{2.5}$/ ton material

k = particle size multiplier, 0.053 for $PM_{2.5}$

U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

M = minimum material moisture content, 10.35%, provided by applicant

G. For the Coal Pile Bulldozing (EU27A), the $PM_{2.5}$ emission rate established in the Emission Limits section this permit is based on the maximum capacity of the unit and the following equation and parameters:

$ER = (0.022)\ 78.4\ (s)^{1.2}/(M)^{1.3}$ (AP-42, Table 11.9-1, bulldozing coal, 7/1998)

Where:

ER = emission rate, lbs $PM_{2.5}$ per hour

0.022 = scaling factor for $PM_{2.5}$

s = material silt content, 7.23%, provided by the applicant; and

M = minimum material moisture content, 10.35%, provided by applicant.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-139

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 300 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
300	Barge Coal Unloader	Coal	1,500 ton/hr	13-A-140

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 13-A-140
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0431 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-140

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits:
A. This emissions unit is limited to operating between March 1 and November 30.
B. This emissions unit is limited to operating between 6:00 AM and 12:00 midnight.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-140

Reporting & Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month, and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.
B. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
C. The $PM_{2.5}$ emission rate established in Emission Limits is based on the maximum capacity of the unit and following equation and parameters:

$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

Where:

E = emission factor in lbs $PM_{2.5}$/ ton material

k = particle size multiplier, 0.053 for $PM_{2.5}$

U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

M = minimum material moisture content, 10.35 %, provided by applicant.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-140

NSPS and NESHAP Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)" v"). The owner or operator shall notify the Iowa DNR Air Quality Bureau prior to the startup of this equipment. Upon start up, the unit shall then comply with requirements of the Subpart and demonstrate compliance with the opacity limit with a one-time stack test.

Authority for Requirement: DNR Construction Permit 13-A-140

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant - Opacity

1st Stack Test to be Completed by - Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the startup date of the equipment.

Test Method - 40 CFR 60, Appendix A, Method 9

Authority for Requirement - DNR Construction Permit 13-A-140

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity > (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.
Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒
Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 301

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
305	Coal Reclaim/RC-1 Conveyor Load	CE301: Fabric Filter Dust Collector	Coal	500 tons/hr	80-A-193-S3
306	Reclaim Feeders			500 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 80-A-193-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0167 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-193-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.23 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-193-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf; 0.23 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-193-S3
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.

B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-193-S3

NSPS and NESHAP Requirements:

These emissions units are subject to the requirements of the New Source Performance Standard (NSPS) for Coal Preparation Plants (40 CFR 60 Subpart Y, 567 IAC 23.1(2)"v") and General Provisions: Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-193-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 10 (minimum)
Stack Opening (inches): 9.625 x 10.625
Exhaust Temperature (^{o}F): Ambient
Exhaust Flow Rate (scfm): 3,900
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-193-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity > (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 302 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
301	Barge Unloader Feeder Discharge/ UC-1 Conveyor Load	Coal	1,500 tons/hr	13-A-141

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 13-A-141
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0431 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-141

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.285 lb/hr
Authority for Requirement: DNR Construction Permit 13-A-141

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. This emissions unit is limited to operating between March 1 and November 30.
B. This emissions unit is limited to operating between 6:00 AM and 12:00 midnight.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-141

Reporting & Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.
B. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
C. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the maximum capacity of the unit and following equation and parameters:
   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs $PM_{2.5}$/ ton material
   k = particle size multiplier, 0.053 for $PM_{2.5}$
   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
   M = minimum material moisture content, 10.35 %, provided by applicant

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-141

NSPS and NESHAP Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)"v"). The owner or operator shall notify the Iowa DNR Air Quality Bureau prior to the startup of this equipment. Upon start up, the unit shall then comply with requirements of the Subpart and demonstrate compliance with the opacity limit using one-time stack testing.

Authority for Requirement: DNR Construction Permit 13-A-141

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. The facility shall use EPA Method 9 with a certified smoke reader for the monitoring method.

If an opacity > (20%) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒
Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 310B (Fugitive – Fully Enclosed)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
310B	Reclaim Feeder -2 Discharge/ Reclaim Conveyor -2 Load	Coal	750 tons/hr	00-A-683-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 00-A-683-S1
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.022 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-683-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit is limited to operating between 6:00 AM and 10:00 PM.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-683-S1

Reporting & Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.
B. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
C. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the maximum capacity of the unit and following equation and parameters:
   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs $PM_{2.5}$/ ton material
   k = particle size multiplier, 0.053 for $PM_{2.5}$
   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
   M = minimum material moisture content, 10.35 %, provided by applicant.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-683-S1

NSPS Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)"v") and *General Provisions*, Subpart A.
Authority for Requirement: DNR Construction Permit 00-A-683-S1

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12
Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 311

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
312A	RC-1/UC-1 Conveyor Discharge/Live Storage Coal Silo	CE-311: AAF Baghouse	Coal	500 tons/hr (RC-1), 1,500 tons/hr (UC-1)	80-A-194-S3

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 20 %
Authority for Requirement: DNR Construction Permit 80-A-194-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.103 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-194-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.69 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-194-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf; 0.69 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-194-S3
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. The equipment covered by this permit (EU312A) is limited to operating between 6:00 AM and 10:00 PM.
B. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.

C. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
D. The Barge Coal Unloading System (EU300) shall not be used to convey coal unless the following conditions are met:
   i. Muscatine Power and Water shall notify the Department within 90 days in advance of the anticipated Barge Coal Unloading (UC-1) to Live Storage Coal Silo (LSCS-1). The Department shall determine if the proposed start-up of Barge Coal Unloading System is an emission increase for the purposes of Prevention Significant of Deterioration (PSD).
   ii. Muscatine Power and Water shall notify the Department of its intent to demonstrate compliance at least 30 days in advance of planned testing. Muscatine Power and Water shall demonstrate compliance with particulate matter and opacity limitations specified in condition 10 at a process capacity at or near the permitted capacity of 1,500 tons of coal per hour associated with Barge Coal Unloading System within 60 days of achieving maximum production or within 180 days after start-up.
   iii. This Condition D. shall not apply when Barge Coal Unloading System operates for any purpose, such as maintenance, without conveying coal.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-194-S3

Reporting and Record Keeping:

A. The owner or operator shall maintain a daily record of when the equipment covered by this permit operates. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
C. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-194-S3

NSPS and NESHAP Requirements:

These emissions units are subject to the requirements of the New Source Performance Standard (NSPS) for *Coal Preparation Plants* (40 CFR 60 Subpart Y, 567 IAC 23.1(2)"v") and *General Provisions* Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-194-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 157.5
Stack Opening (inches, dia.): 24
Exhaust Temperature (^{o}F): Ambient
Exhaust Flowrate (scfm): 6,200
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-194-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity >20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 311B (Fugitive – Fully Enclosed)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
311B	Reclaim Conveyor-2 Discharge/Live Storage Coal Silo-2 Load	Coal	750 tons/hr	00-A-684-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 00-A-684-S1
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0218 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-684-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit is limited to operating between 6:00 AM and 10:00 PM.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-684-S1

Reporting and Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.
B. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
C. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the maximum capacity of the unit and following equation and parameters:
   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs $PM_{2.5}$/ ton material
   k = particle size multiplier, 0.053 for $PM_{2.5}$
   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
   M = minimum material moisture content, 10.35 %, provided by applicant.
   The emission rate also includes potential emissions from a closed manway hatch. Emissions from the closed hatch are estimated at 1% of the emissions due to material handling.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-684-S1

NSPS and NESHAP Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y, "Standards of Performance for *Coal Preparation Plants*." (IAC 23.1(2)"v") and the *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 00-A-684-S1

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable

standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12
Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 312 (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
319A	Silo Feeders SF-1 through SF-4 load to LSC-1 Conveyor	CE312: Fabric Filter Baghouse	Coal	500 tons/hr	93-A-286-S6

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 93-A-286-S6
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.00030 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-286-S6

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.77 lb/hr
Authority for Requirement: DNR Construction Permit 93-A-286-S6

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.77 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 93-A-286-S6
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. This emission unit shall not operate more than 4,000 hours in any rolling twelve-month period.
   (1) The owner or operator shall maintain the following monthly records:
      a. the number of hours that the emission unit operated; and
      b. the rolling twelve-month total number of hours that the emission unit operated.

B. The differential pressure drop across the Fabric Filter Baghouse (CE312) shall be maintained between 1.0 and 10.0 inches of water column while the equipment is in operation.
    (1) The owner or operator shall properly operate and maintain equipment to monitor the differential pressure drop across the Fabric Filter Baghouse (CE312). The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals or per a written facility specific operation and maintenance plan.
    (2) The owner or operator shall collect and record the pressure drop across the Fabric Filter Baghouse (CE312), in inches of water, at least once per day. If the pressure drop across the Fabric Filter Baghouse (CE312) falls outside the range specified in Condition B., the owner or operator shall investigate the Fabric Filter Baghouse (CE312) and make corrections to it. The owner or operator shall maintain a record of all corrective actions taken. This requirement shall not apply on the days that the Fabric Filter Baghouse (CE312) is not in operation.
C. The owner or operator shall develop an operating and maintenance plan for the Fabric Filter Baghouse (CE312), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
    (1) The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Fabric Filter Baghouse (CE312).

Authority for Requirement: DNR Construction Permit 93-A-286-S6

NSPS and NESHAP Requirements:

This unit is subject to NSPS Subpart Y (§60.250) – Standards of Performance for *Coal Preparation Plants* and the *General Provisions* of Subpart A.

Authority for Requirement: DNR Construction Permit 93-A-286-S6

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12
Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 5
Stack Opening (inches): 96 x 96
Exhaust Temperature (^{o}F): Ambient
Exhaust Flow Rate (scfm): 9,000
Discharge Style: Vent Inside
Authority for Requirement: DNR Construction Permit 93-A-286-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 312B (Fugitive – Fully Enclosed)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
312B	LSCS-2 Discharge/Silo Feeder-6 Load	Coal	200 tons/hr	00-A-686-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 00-A-686-S1
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter (PM2.5)
Emission Limit: 0.0058 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-686-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Reporting and Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.

B. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the maximum capacity of the unit and following equation and parameters:

$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

Where:

E = emission factor in lbs $PM_{2.5}$/ ton material

k = particle size multiplier, 0.053 for $PM_{2.5}$

U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

M = minimum material moisture content, 10.35 %, provided by applicant

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-686-S1

NSPS and NESHAP Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)"v") and the *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 00-A-686-S1

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 313B (Fugitive – Fully Enclosed)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
313B	Silo Feeder -6 Discharge/Reclaim Conveyor	Coal	200 tons/hr	00-A-687-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 00-A-687-S1
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0058 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-687-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Reporting and Record Keeping:

A. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.

B. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the maximum capacity of the unit and following equation and parameters:
$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
Where:

E = emission factor in lbs $PM_{2.5}$/ ton material
k = particle size multiplier, 0.053 for $PM_{2.5}$
U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
M = minimum material moisture content, 10.35 %, provided by applicant

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-687-S1

NSPS and NESHAP Requirements:

This emissions unit is subject to the requirements of 40 CFR Part 60, Subpart Y - Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)"v") and the *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 00-A-687-S1

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 314

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
314B	Reclaim Conveyor-3 Discharge / EPC-1 Conveyor Load	CE314: Fabric Filter Baghouse	Coal	200 tons/hr	80-A-196-S4
315B	Pugmill Product Conv. Disch./EPC-1 Conv. Load			200 tons/hr	
317A	Silo Feeder SF-1 through SF-5 / EPC-1 Conveyor Load			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 80-A-196-S4
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0155 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-196-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.34 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-196-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.34 lb/hr, 0.01 gr/dscf [(1)]
Authority for Requirement: DNR Construction Permit 80-A-196-S4

[(1)]Pursuant to the Federal PSD permit issued on January 24, 1980 for boiler #9 and the LAER agreement between the Department and Muscatine Power and Water, signed on December 29, 1979, all coal handling systems associated with boiler #9 are subject to a 0.01 gr/dscf standard for particulate matter.

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-196-S4

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-196-S4

NSPS and NESHAP Requirements:

This unit is subject to NSPS Subpart Y (§60.250) – Standards of Performance for *Coal Preparation Plants* and the *General Provisions* of Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-196-S4

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 27.5
Stack Opening (inches, dia.): 24
Exhaust Temperature (^{o}F): Ambient
Exhaust Flow Rate (scfm): 3,933
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-196-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity >20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation

attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 320

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
320-1	EPC-1 Conveyor & K-Conveyor Discharge/Unit 8 Surge Bins	CE320: Fabric Filter Baghouse	Coal	200 tons/hr	01-A-193-S2
322-1	EPC-1 Conveyor & K-Conveyor Discharge/Unit 7 Surge Bins			200 tons/hr	
328	Unit 7 Coal Crusher & Bypass Feeder			200 tons/hr	
329	Unit 8 Coal Crusher Feeders 8A & 8B			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 01-A-193-S2
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0823 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 01-A-193-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.640 lb/hr
Authority for Requirement: DNR Construction Permit 01-A-193-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf
Authority for Requirement: DNR Construction Permit 01-A-193-S2

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-

inches water column while the equipment is in operation.

B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
C. The stack shall be raised to a minimum of 24 feet from the ground by no later than sixty (60) days from the date of the permit issuance. The stack configuration shall be vertical and unobstructed.

Authority for Requirement: DNR Construction Permit 01-A-193-S2

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.
D. The owner or operator shall submit a notification to the Iowa DNR, Air Quality Bureau when the modification to the stack height has been completed.

Authority for Requirement: DNR Construction Permit 01-A-193-S2

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants*. (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 01-A-193-S2

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 24
Stack Opening (inches): 24 x 24
Stack Exhaust Flow Rate (scfm): 7,500
Stack Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 01-A-193-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity > 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation

attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 322

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
323-1	Unit 7 Coal Crusher/Lump Breaker	CE322: Fabric Filter Baghouse	Coal	200 tons/hr	80-A-006-S3
324A/325A	Unit 8A & 8B Coal Crushers			200 tons/hr	
326	7 & 8 Crusher & Coal Bypass Chute Discharge/L-Conveyor Load			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 80-A-006-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.028 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-006-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.719 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-006-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf
Authority for Requirement: DNR Construction Permit 80-A-006-S3

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-006-S3

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-006-S3

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants.* (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-006-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from the ground): 102
Stack Diameter (inches, dia.): 24
Stack Exhaust Flow Rate (scfm): 8,400
Stack Temperature (^{o}F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-006-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity > 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation

attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 330 and 330A (Fugitives)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
330	Truck Unloading Track Hopper A-Conveyor	Coal	200 tons/hr	13-A-153 13-A-154

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: DNR Construction Permits 13-A-153, 13-A-154
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0058 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permits 13-A-153, 13-A-154

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The equipment covered by this permit (EU330) is limited to operating between 8:00 AM and 4:00 PM.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permits 13-A-153, 13-A-154

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when the equipment covered by this permit operates. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit. The moisture content of the coal handled each month shall be determined from the records kept on the moisture content of the coal burned in the facility's boilers. This shall be done by: 1.) multiplying the moisture content determined daily by the amount of coal burned each day, 2.) summing the daily amount of moisture in the coal for the entire month and 3.) dividing the monthly total of moisture in the coal by the amount of coal burned in the month.
C. The $PM_{2.5}$ emission rate established in Permit Condition 10 is based on the maximum capacity of the unit and following equation and parameters:
   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs $PM_{2.5}$/ ton material
   k = particle size multiplier, 0.053 for $PM_{2.5}$
   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
   M = minimum material moisture content, 10.35%, provided by the applicant.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permits 13-A-153, 13-A-154

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 333

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
330A	Track Hopper Feeders A & B/A-Conveyor Load	CE333: Fabric Filter Baghouse	Coal	200 tons/hr	80-A-007-S3
331	A-Conveyor Discharge/C-Conveyor Load			200 tons/hr	
333	C-Conveyor Discharge/K-Conveyor Load			200 tons/hr	
336	L- Conveyor Discharge/E-Conveyor Load			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 80-A-007-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.061 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-007-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.814 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-007-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf [(1)]
Authority for Requirement: DNR Construction Permit 80-A-007-S3

(1) Pursuant to the Federal PSD permit issued on January 24, 1980 for boiler #9 and the LAER agreement between the Department and Muscatine Power and Water, signed on December 29, 1979, all coal handling systems associated with boiler #9 are subject to 0.01 gr/dscf standard for particulate matter.

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-007-S3

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-007-S3

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plant*s (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-007-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve

compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from the ground): 49.5
Stack Diameter (inches): 24
Stack Exhaust Flow Rate (scfm): 9,500
Stack Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-007-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity > 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation

attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 341

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
340	E-Conveyor Discharge/Unit 8 Coal Bunkers 8A, 8B & 8C	CE341: Fabric Filter Baghouse	Coal	200 tons/hr	00-A-638-S1
342	G-Conveyor Discharge/Truck Loading & Unloading			50 tons/hr	
343	E-Conveyor Discharge/F-Conveyor Load			200 tons/hr	
344	F-Conv. Discharge/Unit 7 Coal Bunkers 7A & 7B			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 00-A-638-S1
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.061 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-638-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.646 lb/hr
Authority for Requirement: DNR Construction Permit 00-A-638-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf
Authority for Requirement: DNR Construction Permit 00-A-638-S1

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 00-A-638-S1

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 00-A-638-S1

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants* (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 00-A-638
The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable

standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet from the ground): 130.25
Stack Diameter (inches): 22
Stack Exhaust Flow Rate (scfm): 8,357
Stack Temperature (ºF): 82
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 00-A-638-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity > 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation

attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement – 567 IAC 24.108(3)

Emission Point ID Number: 351 (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
350A	LSC-1 Conveyor Discharge	CE351: Fabric Filter Baghouse	Coal	500 tons/hr	06-A-650-S3
350B	PC-1 Conveyor Load		Coal	500 tons/hr	
350C	SOC-1 Conveyor Load		Coal	500 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 06-A-650-S3
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0341 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 06-A-650-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.82 lb/hr
Authority for Requirement: DNR Construction Permit 06-A-650-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.82 lb/hr, 0.01 gr/dscf [(1)]
Authority for Requirement DNR Construction Permit 06-A-650-S3

[(1)] Pursuant to the Federal PSD permit issued on January 24, 1980 for boiler #9 and the LAER agreement between the Department and Muscatine Power and Water, signed on December 29, 1979, all coal handling systems associated with boiler #9 are subject to a 0.01 gr/dscf standard for particulate matter.

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.
B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 06-A-650-S3

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 06-A-650-S3

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants* (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 06-A-650-S3

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
The following equipment is associated with this emission point:
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 3.3
Stack Opening (inches, dia.): 21
Exhaust Temperature (^{o}F): 70
Exhaust Flowrate (scfm): 9,273
Discharge Style: Vents Indoors
Authority for Requirement: DNR Construction Permit 06-A-650-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 360

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
361	PSC-9 Conveyor	CE360: Fabric Filter Baghouse	Coal	500 tons/hr	80-A-197-S2
366	Coal Silos 9A, 9B, 9C, and 9D		Coal	500 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 80-A-197-S2
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.034 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-197-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.390 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-197-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf [(1)]
Authority for Requirement: DNR Construction Permit 80-A-197-S2

[(1)] Pursuant to the Federal PSD permit issued on January 24, 1980 for boiler #9 and the LAER agreement between the Department and Muscatine Power and Water, signed on December 29, 1979, all coal handling systems associated with boiler #9 are subject to 0.01 gr/dscf standard for particulate matter.

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.

B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-197-S2

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 80-A-197-S2

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, Standards of Performance for *Coal Preparation Plants* (IAC 23.1(2)"v") and *General Provisions*, Subpart A.

Authority for Requirement: DNR Construction Permit 80-A-197-S2

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 140.5
Stack Opening (inches): 60 x 84
Exhaust Temperature (^{o}F): Ambient
Exhaust Flow Rate (scfm): 4,600
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 80-A-197-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

The emission point shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required.

If an opacity > 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Authority for Requirement: 567 IAC 24.108(3)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 370 (Vents Internally)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
370	SOC-1 Conveyor Discharge/ RSC-1 Conveyor Load	CE370: Fabric Filter Baghouse	Coal	500 tons/hr	93-A-283-S2
372	RSC Conveyor-1 Discharge		Coal	500 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 93-A-283-S2
567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.00029 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-283-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.54 lb/hr, 1.08 tons/yr
Authority for Requirement: DNR Construction Permit 93-A-283-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.54 lb/hr, 1.08 tons/yr, 0.01 gr/dscf [(1)]
Authority for Requirement: DNR Construction Permit 93-A-283-S2
[(1)]Pursuant to the Federal PSD permit issued on January 24, 1980 for boiler #9 and the LAER agreement between the Department and Muscatine Power and Water, signed on December 29, 1979, all coal handling systems associated with boiler #9 are subject to a 0.01 gr/dscf standard for particulate matter.

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit shall not operate more than 4,000 hours in any rolling twelve-month period.
B. The differential pressure drop across the baghouse shall be maintained between 2- and 10-

inches water column while the equipment is in operation.

C. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-283-S2

Reporting & Record Keeping:

A. The owner or operator shall maintain the following monthly records:
i. the number of hours that the emissions unit operated; and
ii. the rolling twelve-month total number of hours that the emissions unit operated.

B. the owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

C. the owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.

D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse and the dust suppression system.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 93-A-283-S2

NSPS and NESHAP Requirements:

These emission units are subject to the requirements of 40 CFR Part 60, Subpart Y, "Standards of Performance for Coal Preparation Plants." (IAC 23.1(2)"v") and General Provisions, Subpart A.

Authority for Requirement: DNR Construction Permit 93-A-283-S2

The opacity standard shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. 40 CFR 60.11(c)

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. 40 CFR 60.11(d)

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. 40 CFR 60.12

Authority for Requirement: 567 IAC 23.1(2)"v"
40 CFR 60 Subpart Y

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 45
Stack Opening (inches, dia.): 25
Exhaust Temperature (^{o}F): Ambient
Exhaust Flowrate (scfm): 12,525
Discharge Style: Vents Inside
Authority for Requirement: DNR Construction Permit 93-A-283-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 392

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
392	Day Bin for EPC Conveyor	CE392: Fabric Filter Baghouse	Dry Additive	15 tons/hr	13-A-342

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: DNR Construction Permit 13-A-342
567C 23.1(2)"v"

(1)An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.00329 lb/hr
Authority for Requirement: DNR Construction Permit 13-A-342

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.102 lb/hr
Authority for Requirement: DNR Construction Permit 13-A-342

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.102 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 13-A-342
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall develop an operating and maintenance plan for the fabric filter baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 13-A-342

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the fabric filter baghouse.

Authority for Requirement: DNR Construction Permit 13-A-342

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 46
Stack Opening (inches, dia.): 8
Exhaust Temperature (^{o}F): 70
Exhaust Flowrate (scfm): 1,200
Discharge Style: Vertical – Turbine Style Exhaust
Authority for Requirement: DNR Construction Permit 13-A-342

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 394

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
394A	Storage Bin	CE394: Baghouse	Dry Additive	15 tons/hr	20-A-098

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 20-A-098
567 IAC 23.3(2)"d"

(1)An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.00329 lb/hr
Authority for Requirement: DNR Construction Permit 20-A-098

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.102 lb/hr
Authority for Requirement: DNR Construction Permit 20-A-098

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.102 lb/hr, 0.1 gr/scf
Authority for Requirement: DNR Construction Permit 20-A-098
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall inspect and maintain the control equipment filters in accordance with the manufacturer's recommendations.

Authority for Requirement: DNR Construction Permit 20-A-098

Reporting & Record keeping:

A. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:
   i. The date and time any inspection and/or maintenance was performed on the control equipment;
   ii. Any issues identified during the inspection;
   iii. Any issues addressed during the maintenance activities; and,
   iv. Identification of the staff member performing the maintenance or inspection

Authority for Requirement: DNR Construction Permit 20-A-098

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 39
Stack Opening, (inches, dia.): 8
Exhaust Flow Rate (scfm): 1,200
Exhaust Temperature (°F): 70
Discharge Style: Vertical unobstructed
Authority for Requirement: Iowa DNR Construction Permit 20-A-098

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 40 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
40	Limestone Hopper Loading	Limestone	400 tons/hr	13-A-155

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: DNR Construction Permit 13-A-155
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.147 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-155

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The emissions unit is limited to operating between 8:00 AM and 4:00 PM.
B. The emissions unit shall be roofed and shall be permanently enclosed on the three sides that are not used by vehicles. The fourth side shall be equipped with drive-through plastic strips. The drive-through plastics strips shall be maintained in good condition and shall be replaced when they become warped or damaged or are otherwise not providing an effective enclosure.
C. The amount of limestone handled in this emissions unit shall be limited to 200 tons per hour.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-343

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall maintain a daily record of the following: 1.) the amount of limestone handled, 2.) the number of hours that the emissions unit operated, and 3.) the average amount of limestone handled in tons per hour (#1/ #2).
C. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit.
D. The $PM_{2.5}$ emission rate established in the Emission Limits section of this permit is based on the limited hourly capacity of the unit and following equation and parameters:
   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs $PM_{2.5}$/ ton material
   k = particle size multiplier, 0.053 for $PM_{2.5}$
   U = mean wind speed, 5.0 miles per hour, based on an enclosure that reduces the wind speed in the enclosure by 33%; and
   M = minimum material moisture content, 0.7%, provided by applicant, based on AP-42, Table 13.2.4-1, average moisture content of crushed limestone

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-343

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 41

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
41	Limestone Conveying	CE40: Fabric Filter Baghouse	Limestone	200 tons/hr	80-A-202-S2
42	Limestone Crusher			200 tons/hr	
43A	Limestone Storage Silos			200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 % (1)
Authority for Requirement: DNR Construction Permit 80-A-202-S2
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of (10%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.088 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-202-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.866 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-202-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.01 gr/dscf
Authority for Requirement: DNR Construction Permit 80-A-202-S2

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation.

B. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-202-S2

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the baghouse. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall collect and record the pressure drop across the baghouse, in inches of water, at least once per day. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.
D. The owner or operator shall maintain the following monthly records:
   i. The amount of limestone processed in the emissions units (tons); and
   ii. The total amount of limestone processed in each calendar year (tons).

   For tons of limestone processed, it is acceptable to record the amount of limestone received at the facility. This record keeping is required to document whether annual throughput of limestone has exceeded 10,000 and whether a stack test for $PM_{2.5}$ is required in accordance with the Monitoring Requirements section of this permit.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-202-S2

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 115
Stack Opening (inches): 66 x 66
Exhaust Temperature (^{o}F): 70
Exhaust Flow Rate (scfm): 11,818
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 80-A-202-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – Opacity

Stack Test to be Completed by – Stack testing for $PM_{2.5}$ and opacity shall be conducted if the annual throughput of limestone exceeds 10,000 tons. The test shall be started no later than 120 days after the month in which the throughput exceeded 10,000 tons. If the test cannot be started during the 120-day period due to the unit's limited operating schedule, MPW may request an extension of an additional 60 days to begin the testing.

Test Method - 40 CFR 60, Appendix A, Method 9

Authority for Requirement: DNR Construction Permit 80-A-202-S2

Pollutant – Particulate Matter ($PM_{2.5}$)

Stack Test to be Completed by – Stack testing for $PM_{2.5}$ and opacity shall be conducted if the annual throughput of limestone exceeds 10,000 tons. The test shall be started no later than 120 days after the month in which the throughput exceeded 10,000 tons. If the test cannot be started during the 120-day period due to the unit's limited operating schedule, MPW may request an extension of an additional 60 days to begin the testing.

Test Method - 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-202-S2

Pollutant - Particulate Matter (PM)

Stack Test to be Completed by – Stack testing for PM shall be conducted if the annual throughput of limestone exceeds 10,000 tons. The test shall be started no later than 120 days after the month in which the throughput exceeded 10,000 tons. If the test cannot be started during the 120-day period due to the unit's limited operating schedule, MPW may request an extension of an additional 60 days to begin the testing.

Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M, Method 202

Authority for Requirement – 567 IAC 24.108(3)

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 45 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
45	Limestone Storage Pile	Limestone	2 Acres	13-A-142
45A	Limestone Truck Unloading		200 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

For Emission Units 45 and 45A
Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: DNR Construction Permit 13-A-142
567 IAC 23.3(2)"d"

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

For Emission Unit 45A Only
Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 0.0625 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-142

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. The Limestone Truck Unloading operation (EU45A) is limited to operating between 6:00 AM and 4:00 PM.
B. The number of delivery trucks for unloading limestone is limited to six per day.
C. The amount of limestone that can be unloaded onto the storage pile is limited to 90 tons per day.

D. The amount of limestone that can be unloaded onto the storage pile is limited to 50 tons per hour.
E. The ground surface area of the limestone storage pile (EU45) shall not exceed 1 acre (43,560 square feet).

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-142

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when the Limestone Truck Unloading (EU45A) operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall maintain an hourly and daily record in tons on the amount of limestone loaded onto the storage pile.
C. The owner or operator shall maintain records on the moisture content and the silt content of the material handled in this emissions unit.
D. The owner or operator shall maintain records on the surface area of the limestone pile. The limestone pile shall be measured semi-annually and information on the size of the limestone pile shall be submitted with the facility's semi-annual reports.
E. For the Limestone Truck Unloading (EU45A), the $PM_{2.5}$ emissions rate established in Permit Condition 10 is based on the maximum capacity of the unit and the following equation and parameters:

$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

Where:

E = emission factor in lbs $PM_{2.5}$/ ton material
k = particle size multiplier, 0.053 for $PM_{2.5}$
U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
M = minimum material moisture content, 0.7%, provided by applicant. 0.7% is the mean moisture content value listed in AP-42, Table 13.2.4-1 for crushed limestone.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-142

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 60

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
60	Auxiliary Boiler	Fuel Oil, Natural Gas, or Propane	29.29 MMBtu/hr	13-A-152-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% (1)
Authority for Requirement: DNR Construction Permit 13-A-152-S1
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.567 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-152-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.720 lb/hr
Authority for Requirement: DNR Construction Permit 13-A-152-S1

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.045 lb/hr (2) (3)
Authority for Requirement: DNR Construction Permit 13-A-152-S1
RACT

(2) The sulfur content of the distillate fuel oil combusted in this emission unit shall not exceed 15 ppm.
(3) The SO_2 limit is established to address the nonattainment designation for a portion of Muscatine County published in the Federal Register (78 FR 47191) on August 5, 2013. The nonattainment designation is for the 1-hour SO_2 primary national ambient air quality standard promulgated by EPA in 2010 (75 FR 35519, June 22, 2010). Compliance with this emission limit (sulfur content) shall be demonstrated through fuel sampling and/or fuel certification.

LAER Emission Limits
Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.03 lb/MMBtu
Authority for Requirement: DNR Construction Permit 13-A-152-S1
567 IAC 31.20(1)"d"

Pollutant: Sulfur Dioxide (SO_2) – fuel oil
Emission Limit(s): 0.44 lbs/MMBtu
Authority for Requirement: DNR Construction Permit 13-A-152-S1
567 IAC 31.20(1)"d"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. This boiler is limited to burning natural gas or distillate fuel oil only. Propane (LP gas) may be used as a startup fuel when the boiler is to burn distillate fuel oil.
B. The maximum sulfur content of the fuel oil burned in this boiler shall not exceed 15 ppm (i.e., Ultra Low Sulfur Diesel).

Authority for Requirement: DNR Construction Permit 13-A-152-S1

Reporting & Record keeping:

A. The owner or operator shall perform an analysis and shall maintain records on the sulfur content of each shipment of oil received. Alternatively, the owner or operator shall have the oil supplier provide analyses on the sulfur content of the oil received. The analysis does not have to be for each shipment of oil received, but shall be documented by receipts from the fuel supplier, a statement from the fuel supplier on the specification of the sulfur content of the purchased oil, or other supporting documentation.

Authority for Requirement: DNR Construction Permit 13-A-152-S1

NSPS and NESHAP Requirements

This equipment is subject to the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (feet): 123
Stack Diameter (inches): 27
Stack Exhaust Flow Rate (scfm): 4,350
Stack Temperature (°F): 365
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 13-A-152-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 70

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
70	Unit 7 Traveling Grate Stroker Boiler	CE71: Cyclone CE72: Electrostatic Precipitator (ESP)	Bituminous Coal, Subbituminous Coal, and/or Natural Gas	289 MMBtu/hr, either Coal or Natural Gas	74-A-175-S4

Continuous Emissions Monitors ID Numbers: ME70A, ME71

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40%
Authority for Requirement: DNR Construction Permit 74-A-175-S4
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limits: 8.57 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 74-A-175-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limits: 121.0 lb/hr
Authority for Requirement: DNR Construction Permit 74-A-175-S4

Pollutant: Particulate Matter (PM)
Emission Limits: 121.0 lb/hr, 530.0 tons/yr, 0.42 lb/MMBtu
Authority for Requirement: DNR Construction Permit 74-A-175-S4

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 6.0 lb/MMBtu
Authority for Requirement: DNR Construction Permit 74-A-175-S4
567 IAC 23.3(3)"a"

Pollutant: Sulfur Dioxide (SO_2) – total
RACT Emission Limit: 1,153 lb/hr [(1)]
Authority for Requirement: DNR Construction Permit 74-A-175-S4
567 IAC 23.3(3)"a"

[(1)] Shall be determined on a 21-day rolling average basis and includes startup, shutdown and malfunction emissions. This is a combined limit for EP 70, EP 80, and EP 90.

Emission Limits for Boilers 7 and 8 Combined

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 2,772 lb/hr [(2)], 12,141 tons/yr [(3)]
Authority for Requirement: DNR Construction Permit 74-A-175-S4

[(2)] The combined total emission of sulfur dioxide from boiler 7 and boiler 8 shall not exceed 2,772 pounds per hour, averaged over a 24-hour calendar day, as required in the agreement between Muscatine Power & Water, IDNR and the EPA (see IDNR letter of 3/13/95). Compliance with this emission limit shall be demonstrated using the calculation methods detailed in the Continuous Emissions Monitoring section condition D.
[(3)] Beginning March 15, 1996, the combined total emission of sulfur dioxide from Boiler 7 and Boiler 8 shall not exceed 12,141 tons per rolling 12-month period. Compliance with this emission limit shall be demonstrated using the calculation methods detailed in the Continuous Emissions Monitoring section condition D.

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. This emissions unit shall be limited to firing on coal and natural gas.
B. Total emissions of sulfur dioxide from unit 7 and unit 8 shall not exceed 2,772 pounds per hour, averaged over a 24-hour calendar day. Compliance with this emission limit shall be demonstrated using the calculation methods detailed in the Continuous Emissions Monitoring section condition D.
C. The owner or operator shall develop an operating and maintenance plan for the multiclone, CE71, and the electrostatic precipitator, CE72, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
D. Total emissions of sulfur dioxide from Unit 7, Unit 8 and Unit 9 shall not exceed 1,153 pounds per hour on a 21-day rolling average as calculated in the Reporting and Record Keeping section condition B.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 74-A-175-S4

Reporting & Record Keeping:

A. The owner shall maintain a file of computations to show the total hourly emission rate of sulfur dioxide emissions from Unit 7 and Unit 8. The owner shall submit quarterly excess emission reports as specified in 567 IAC 25.1(6). Oral and written excess emission reporting shall be required as specified in Chapter 25 of the Iowa rules.
B. The owner or operator shall maintain a file of computations to show the total hourly emission level for SO_2. The owner or operator shall use the total hourly SO_2 emission rates to

calculate and record the average SO_2 emission rate for each calendar day. Effective January 1, 2017, the owner or operator shall use the daily average SO_2 emission rates to demonstrate compliance with the 21-day rolling average as calculated below:

$SO_2 = 2.03*(\text{Unit 7}) + 0.84*(\text{Unit 8}) + 1.22*(\text{Unit 9})$

Where,

SO_2 = total emissions, in pounds per hour, of sulfur dioxide from Unit 7, Unit 8 and Unit 9

Unit 7 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 7

Unit 8 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 8

Unit 9 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 9

The owner or operator shall provide quarterly reports to the Department, no later than 30 calendar days following the end of the calendar quarter as specified in 567 IAC 25.1(6).

C. A log of all maintenance and inspection activities performed on the emission unit and control equipment. This log shall include, but is not limited to:
   i. The date and time any inspection and/or maintenance was performed on the emission unit and/or control equipment;
   ii. Any issues identified during the inspection and the date each issue was resolved;
   iii. Any issues addressed during the maintenance activities and the date each issue was resolved; and,
   iv. Identification of the staff person performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 74-A-175-S4

NSPS and NESHAP Requirements

This equipment is subject to the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD
567 IAC 24.108(3)

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (feet): 220
Stack Diameter (inches): 106.3
Stack Exhaust Flow Rate (scfm): 65,000
Stack Temperature (^oF): 350
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 74-A-175-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department

within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – Particulate Matter (PM) - State
Stack Test to be Completed – Once every 3 years, last test completed on 08/01/2024 (1)
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M, Method 202
Authority for Requirement - DNR Construction Permit 74-A-175-S4

(1) In addition to the PM stack test required above, a stack test for $PM_{2.5}$ is required if the results of any PM test (as a 3 run average) ever exceeds 8.57 pounds per hour. The stack test for $PM_{2.5}$ shall be conducted within ninety (90) days after the report is received by the Iowa DNR showing the final results of the PM test.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Continuous Emissions Monitoring:

Pollutant - Opacity
Operational Specifications - 40 CFR Part 60
Initial System Calibration/Quality Assurance –July 2000
Ongoing System Calibration/Quality Assurance - 40 CFR Part 60
Reporting & Record keeping - 567 IAC 25. Submit all reports and petitions required by 567 IAC 25 to the Iowa DNR in order to demonstrate compliance with continuous emission monitoring and the 40% opacity (visible emissions) limit
Authority for Requirement - 567 IAC 25.1(1), 567 IAC 23.3(2)"d", 567 IAC 22.108(4), and 567 IAC 22.108(15)

Pollutant - Sulfur Dioxide (SO_2)
Operational Specifications – As found in 40 CFR Part 75
Initial System Calibration/Quality Assurance – 07/27 – 08/08/2006
Ongoing System Calibration/Quality Assurance –As found in 40 CFR Part 75
Reporting & Record keeping – As found in 40 CFR Part 75. Submit all reports and petitions required by 40 CFR 75 to the Iowa DNR in order to demonstrate compliance with the 6 lb/MMBtu SO_2 emission limit for boiler 7 alone and 2772 lb/hr SO_2 emissions for boilers 7 and 8.
Authority for Requirement - Iowa DNR Construction Permit 74-A-175-S4 and EPA PSD Permit 80-E-001 dated 1/24/80 and revision 80-E-001-S dated 9/6/83

Other Parameters (For the calculation of SO_2)

Pollutant - Other - Carbon Dioxide (CO_2)
Operational Specifications – As found in 40 CFR Part 75
Initial System Calibration/Quality Assurance – 07/27 – 08/08/2006
Ongoing System Calibration/Quality Assurance –As found in 40 CFR Part 75
Reporting & Record keeping – As found in 40 CFR Part 75. Submit all reports and petitions required by 40 CFR 75 to the Iowa DNR in order to demonstrate compliance with the 6 lb/MMBtu SO_2 emission limit for boiler 7 alone and 2772 lb/hr SO_2 emissions for boilers 7 and 8.
Authority for Requirement - Iowa DNR Construction Permit 74-A-175-S4 and EPA PSD Permit 80-E-001 dated 1/24/80 and revision 80-E-001-S dated 9/6/83

Pollutant - Other - Flow
Operational Specifications – As found in 40 CFR Part 75
Initial System Calibration/Quality Assurance – 11/29-12/14/95
Ongoing System Calibration/Quality Assurance –As found in 40 CFR Part 75
Reporting & Record keeping – As found in 40 CFR Part 75. Submit all reports and petitions required by 40 CFR 75 to the Iowa DNR in order to demonstrate compliance with the 6 lb/MMBtu SO_2 emission limit for boiler 7 alone and 2772 lb/hr SO_2 emissions for boilers 7 and 8.

A. The owner or operator shall operate, maintain, and quality assure a continuous emission monitoring system (CEMS) for measuring emissions in the respective units (ppm, lb/hr, etc.) as required in the Emission Limitations section of this permit. The CEMS shall be operated during any period that any fuel is combusted in the boiler.
B. The following monitoring systems are required by this permit:
   i. *SO_2*:
   The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CEMS) and record the output of the system, for measuring sulfur dioxide (SO_2) emissions, as follows:
      a) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring sulfur dioxide (SO_2) emissions discharged to the atmosphere, or
      b) If the owner or operator has installed and certified a SO_2 CEMS according to the requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B that CEMS may be used to meet the SO_2 monitoring requirements provided:
         1) A CO_2 or O_2 continuous monitoring system is installed, calibrated, maintained and operated at the same location.

   The CEMS data recorder output range shall include zero and a high-level value. The high-level value shall be chosen and recorded by the owner or operator. The CEMS design shall also allow the determination of calibration drift at the zero and high-level values. If this is not possible or practical, the design must allow these determinations to be conducted at a low-level value (zero to 20 percent of the high-level value) and at a value between 50 and 100 percent of the high-level value.

The CEMS shall be installed at an accessible location where the pollutant concentration or emission rate measurements are directly representative or can be corrected so as to be representative of the total emissions from the affected facility or at the measurement location cross section.

The owner or operator shall develop and implement a QC program. At a minimum, each QC program must include written procedures which describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS.
2. Calibration drift determination and adjustment of CEMS.
3. Preventive maintenance of CEMS (including spare parts inventory).
4. Data recording, calculations, and reporting.
5. Accuracy audit procedures including sampling and analysis methods.
6. Program of corrective action for malfunctioning CEMS.

Whenever excessive inaccuracies occur for two consecutive quarters, the owner or operator shall revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

These written procedures must be kept on record and available for inspection by the enforcement agency.

The owner or operator shall periodically review the aggregate hourly emissions average and aggregate annual emissions data produced by the CEMS. If the review indicates that either may exceed the emission limitations found in the Emissions Limitation section, the owner or operator shall take steps to mitigate SO_2 emissions to, at, or below the applicable limitation.

The owner or operator shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the IDNR, EPA, or any authorized agent of these agencies

ii. *O_2 or CO_2*:

The owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring the oxygen (O_2) or carbon dioxide (CO_2) content of the flue gases at each location where SO_2 emissions are monitored.

C. The CEMS required in condition B above for SO_2 and either O_2 or CO_2 shall be operated and the data recorded during all periods of operation including periods of startup, shutdown, malfunction or emergency conditions, except for CEMS breakdowns, repairs, calibration checks and zero and span adjustments.

D. Muscatine Power and Water shall use the following procedures to calculate the hourly SO_2 mass rate for Boilers 7 and 8.

i. When measurements of SO_2 concentration and flow rate are on a wet basis, use the following equation to compute hourly SO_2 mass emission rate (in lb/hr):

$E_h = K*C_h*Q_h$

Where:

E_h = Hourly SO_2 mass emission rate during unit operation, lb/hr.

K = 1.660×10^{-7} for SO_2, (lb/scf)/ppm.

C_h = Hourly average SO_2 concentration during unit operation, stack moisture basis, ppm.

Q_h = Hourly average volumetric flow rate during unit operation, stack moisture basis, scfh.

ii. When measurements by the SO_2 pollutant concentration monitor are on a dry basis and the flow rate monitor measurements are on a wet basis, use the following equation to compute hourly SO_2 mass emission rate (in lb/hr):

$E_h = K*C_{hp}*Q_{hs}*[(100 - \%H_2O)/100$

Where:

E_h = Hourly SO_2 mass emission rate during unit operation, lb/hr.

K = 1.660×10^{-7} for SO_2, (lb/scf)/ppm.

C_{hp} = Hourly average SO_2 concentration during unit operation, ppm (dry).

Q_{hs} = Hourly average volumetric flow rate during unit operation, scfh as measured (wet).

$\%H_2O$ = Hourly average stack moisture content during unit operation, percent by volume.

At the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate the aggregate daily emissions rate, summing all SO_2 emissions from boilers 7 and 8 for that day. Likewise, at the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate the aggregate average hourly emissions rate for Boilers 7 and 8, as the sum of all hourly emissions from Boilers 7 and 8 divided by the time elapsed on that day. Lastly, Muscatine Power and Water shall calculate aggregate annual emissions from Boilers 7 and 8, either as the sum of all hourly emissions or the sum of all daily emissions collected or substituted since January 1 of the current emissions year. For the purposes of this condition, a boiler operating day is any day in which any fuel is combusted in any of the affected boilers. A day shall be defined as the time between 12:01 AM and 12:00 midnight.

E. Muscatine Power and Water shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the Iowa Department of Natural Resources, the Environmental Protection Agency, or any authorized agent of these agencies

F. Muscatine Power and Water shall provide a written report of all exceedances of the aggregate hourly emissions average for Boilers 7 and 8 no later than 30-days following the end of each calendar quarter on forms provided by the Department. In addition, Muscatine Power and Water shall report the aggregate annual emissions for Boilers 7 and 8 in each quarterly report, summarizing the year-end totals in the fourth-quarter report.

G. The following data requirements shall apply to all CEMS for the SO_2 emission standards in this permit:

i. The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

ii. The 1-hour average SO_2 and CO_2 emission rates measured by the CEMS required by this permit shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.

iii. For each hour of missing emission data (SO_2 and CO_2), the owner or operator shall substitute data by:

a) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

b) For the missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c) For a missing data period greater than 24 hours, substitute the greater of:

1) The 90^{th} percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

2) The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

d) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:

1) For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

2) For the missing data period of more than 8 hours, substitute the greater of:

- The 95^{th} percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

e) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

H. Muscatine Power and Water shall develop and implement a quality assurance/quality control (QA/QC) program for the continuous emission monitoring systems. At a minimum, include in each QA/QC program a written plan that describes in detail (or that refers to separate documents containing) complete, step-by-step procedures and operations for preventative maintenance, calibration checks, relative accuracy test audits. Upon request from regulatory authorities, the source shall make all procedures, maintenance records, and ancillary

supporting documentation from the manufacturer (e.g., software coefficients and troubleshooting diagrams) available for review during an audit. Electronic storage of the information in the QA/QC plan is permissible, provided that the information can be made available in hardcopy upon request during an audit. These activities generally include a daily calibration error, quarterly linearity test, and semi-annual or annual RATA.

I. If requested by the Department, the owner/operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

Authority for Requirement: DNR Construction Permit 74-A-175-S4 and
EPA PSD Permit 80-E-001 dated 1/24/80 and revision 80-E-001-S dated 9/6/83

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 24.108(3)

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the exceedance to the department and conduct source testing within 90 days of the exceedance to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Compliance Assurance Monitoring (CAM) Plan for CE71 Multi-Cyclone

I. Background

A. Emissions Unit:
Identification: EP70/EU70
Description: Unit 7 Traveling Grate Stoker Boiler
Facility: Muscatine Power & Water, 1700 Dick Drake Way, Muscatine, Iowa 52761

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Applicable regulation:	Permit 74-A-175-S4
PM Emission Limit:	121 lb/hr, 530 tons/yr, 0.42 lb/MMBtu
PM_{10} Emission Limit:	121 lb/hr
$PM_{2.5}$ Emission Limit:	8.57 lb/hr

C. Current Monitoring Requirements:
Stack Testing
Continuous Opacity Monitoring (COMS) ME70A
Audible Precipitator "Malfunction" Alarm

D. Current Technology: Cyclonic Separator Dust Collector

II. Monitoring Approach

A. Indicator: Continuous monitoring of differential pressure alarms will be used as an indicator.

B. Measurement Approach: Differential pressure alarms are checked continuously to detect differential pressure of less than 1.0 inches or greater than 5.1 inches of water.

C. Indicator Range: An excursion is defined as a differential pressure of less than 1.0 inches or greater than 5.1 inches of water for an hourly average, except during periods of start-up, shutdown, and upset conditions.

D. QIP Threshold: The QIP threshold is six excursions in a one month period.

E. Performance Criteria: Differential pressure of less than 1.0 inches or greater than 5.1 inches water would indicate a decrease in the performance of either the cyclone separator or the dust collector and potentially indicate an increase of or particulate emissions.

F. Verification of operational: Differential pressure alarm records will be maintained for five years.

G. QA/QC practices and criteria: The facility shall monitor the differential pressure alarm status when the system is in operation. If an hourly average differential pressure of less than 1.0 inches of water or a differential pressure greater than 5.1 inches of water is observed, corrective action will be taken within 8 hours,

except when an alarm arises during periods of startup, shutdown, or upset conditions.

H. Monitoring frequency: Differential pressure alarms shall be monitored by the DCS when the emission unit is in operation.

Compliance Assurance Monitoring (CAM) Plan for CE72 Electrostatic Precipitator

I. Background

A. Emissions Unit:
Identification: EP70/EU70
Description: Unit 7 Traveling Grate Stoker Boiler
Facility: Muscatine Power & Water, 1700 Dick Drake Way, Muscatine, Iowa 52761

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:
Applicable regulation: Permit 74-A-175-S4
PM Emission Limit: 121 lb/hr, 530 ton/yr, 0.42 lb/MMBtu
PM_{10} Emission Limit: 121 lb/hr
$PM_{2.5}$ Emission Limit: 8.57 lb/hr

C. Current Monitoring Requirements:
Stack Testing
Continuous Opacity Monitoring (COMS) ME70A
Audible Precipitator "Malfunction" Alarm

D. Current Technology: Electrostatic Precipitator

II. Monitoring Approach:

1. Indicator	Opacity of ESP exhaust	Audible Precipitator "Malfunction" Alarm
Measurement Approach	COMS in ESP exhaust	The audible and visual alarm continuously monitors T-R set failure and rapper control malfunction.
2. Indicator Range	A CAM excursion will be defined as **opacity exceeding 30% over any 1-hour averaging period.** Except during startup, shutdown, or cleaning of control equipment as per 567 IAC 24.1(1). Corrective action will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand,	A CAM excursion will be defined as **Failure of two T-R sets or more than 25% of the rappers.** Corrective action measures will be implemented on the occurrence of a "Malfunction" alarm. The appropriate measures for remediation will be implemented within eight hours plus the period of time until generating capacity is available to meet customer demand.

	after it is determined that the opacity monitor is functioning properly.	Random T-R set failure and rapper failure (up to one T-R set and 25% of the rappers per precipitator section) will not significantly affect precipitator performance.
3. Performance Criteria A. Data Representativeness	COMS installed at a representative location in the ESP exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1).	Rapper system operation, T-R set operation and ash removal system operation are indicators of the proper electromechanical operation of the ESP. An audible alarm will continuously monitor T-R set failure and rapper control health. Daily inspection of the rapper system operation, T-R sets and ash removal system provide additional assurance of proper electromechanical operation of the ESP.
B. Verification of Operational Status	Results of initial COMS performance evaluation conducted per PS-1 (July 2000).	Results of equipment verification tests conducted to calibrate the audible and visible alarm displays.
C. QA/QC Practices/Criteria	Installation and evaluation of the COMS per PS-1. The continuous opacity monitor is automatically calibrated for zero and span adjustments daily.	All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture's specifications.
D. Monitoring Frequency	Monitor the opacity of the ESP exhaust continuously (every 10 seconds).	An audible alarm will continuously (greater than four times per hour) monitor T-R set failure and rapper control malfunction.
E. Data Collection Procedures	Set up the data acquisition system (DAS) to retain all 6-minute average opacity data.	Maintain records of T-R and rapper failures exceeding CAM thresholds for longer than one hour.
F. Averaging period	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate hourly block average opacity for the CAM.	N/A

III. Quality Improvement Plan (QIP):

A Quality Improvement Plan (QIP) will be required to be submitted to the IDNR if an accumulation of excursions of either the opacity indicator or the T-R and rapper alarms exceed 5 percent of the boiler's normal operating time for a 6-month reporting period. All requirements in 40 CFR 64.8(b) shall be fulfilled if a QIP is required.

IV. Quality Assurance and Quality Control:

In addition to monitoring the opacity and T-R / rapper alarms, MP&W will conduct the following activities to assure compliance. The following monitoring is not required during periods of time greater than one day in which the source does not operate.

A. Monitor detection equipment, including alarm displays in the control room, which alert operators to irregular operating conditions such as high hopper levels, high opacity, and continuous opacity monitoring system (COMS) failure.
B. Conduct daily inspections of the ESP electromechanical operation:
   - Inspection of rapper operation
   - Inspection of T-R set operation including power usage level
   - Inspection of ash removal system operation
C. Each Major Scheduled Unit Outage (typically lasting four or more weeks):
   - Check and correct plate/electrode alignment
   - Inspect for collection surface fouling
   - Inspect T-R set mechanical condition
   - Inspect internal structural components
   - Evaluate and correct ash transport system wear areas

Corrective action to correct abnormal operating conditions will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand.

D. Record Keeping and Recording:
   - Records of all daily inspections and any actions resulting from these inspections will be kept for five years.
   - Records of all planned unit outage inspections and any actions resulting from these inspections will be kept for five years.
   - MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken. 40 CFR 64.9(a)(2)(i).
   - MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). 40 CFR 64.9(a)(2)(ii).
   - All excursions and monitor downtime incidents will be reported in semi-annual monitoring reports and annual compliance certifications.
E. Quality Control:
   - All instruments and equipment will be calibrated, maintained, and operated according to the manufacturer's specifications.
   - An inventory of spare parts will be maintained. Parts will be re-ordered as they are used.

Authority for requirement: 567 IAC 24.108(3)

Emission Point ID Number: 80

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
80	Unit 8 Cyclone Boiler	CE80A: Electrostatic Precipitator – Dry (DESP) CE81: Overfire Air CE82:Activated Carbon Injection	Bituminous Coal, Subbituminous Coal, or Natural Gas Waste Solvent (330 gal/month for combustion) Diesel Oil and/or Waste Oil (Occasionally for short periods to facilitate slag tapping or coal combustion)	890 MMBtu/hr Coal or Natural Gas	95-A-373-P4

Continuous Emissions Monitors ID Numbers: ME80A, ME81A, ME82A, ME83, ME84, and ME85

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40%
Authority for Requirement: DNR Construction Permit 95-A-373-P4
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limits: 37.57 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 95-A-373-P4

Pollutant: Particulate Matter (PM_{10})
Emission Limits: 266.9 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-373-P4

Pollutant: Particulate Matter (PM)
Emission Limits: 267.0 lb/hr, 1,169 tons/yr, 0.30 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-373-P4

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 6.0 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-373-P4

Pollutant: Sulfur Dioxide (SO_2) - total
RACT Emission Limit: 1,153 lb/hr [(1)]
Authority for Requirement: DNR Construction Permit 95-A-373-P4
[(1)] Shall be determined on a 21-day rolling average basis and includes startup, shutdown and malfunction emissions. This is a combined limit for EP70, EP80, and EP90.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limits: 3,352.45 tons/yr, 0.86 lb/MMBtu [(2)]
Authority for Requirement: DNR Construction Permit 95-A-373-P4
[(2)]As requested to remain an insignificant increase for PSD and to meet Acid Rain requirements in 40 CFR 76.6. Standard is a twelve-month rolling average, and includes startup, shutdown and malfunctions.

Pollutant: Carbon Monoxide (CO)
Emission Limits: 432.4 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-373-P4

Emission Limits for Boilers 7 and 8 Combined
Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 2,772 lb/hr [(3)], 12,141 tons/yr
Authority for Requirement: DNR Construction Permit 95-A-373-P4
[(3)]Averaged over a 24-hour calendar day.

BACT Emission Limit
Pollutant: Carbon Monoxide (CO)
BACT Emission Limits: 960 tons/yr [(4)], 250 ppm [(5)]
Authority for Requirement: DNR Construction Permit 95-A-373-P4

[(4)] Standard is a twelve-month rolling average, and includes startup, shutdown and malfunctions.
[(5)] Standard is averaged over a calendar day, and does not include startup, shutdown and malfunction.

Acid Rain Limits
Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: Sulfur Dioxide Allowances
Authority for Requirement: 567 IAC 24.108(7)(See attached Phase II Permit in appendix)

Cross-State Air Pollution Rule (CSAPR) (aka Transport Rule (TR)) Limit
Pollutant: Nitrogen Oxides (NO_x) Annual, Nitrogen Oxides (NOX) Ozone Season Group 2, Sulfur Dioxide (SO_2) Group 1
Emission Limits: Nitrogen Oxides and Sulfur Dioxide Allowance
Authority for Requirement: 40 CFR Part 97 (See Appendix B for requirements)

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. No person shall allow, cause or permit the combustion of number 1 or number 2 diesel fuel exceeding a sulfur content of 0.5 percent by weight.

Authority for Requirement: 567 IAC 23.3(3)"b"(1)

A. Total emissions of sulfur dioxide from unit 7 and unit 8 shall not exceed 2,772 pounds per hour, averaged over a 24-hour calendar day. Compliance with this emission limit shall be demonstrated using the calculation methods detailed in the Continuous Emission Monitoring section condition D.
B. The owner or operator shall develop an operating and maintenance plan for the electrostatic precipitator, CE80A, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
C. The owner or operator shall combust coal and/or natural gas in this unit. Diesel oil and/or waste oil may be combusted in this unit for short periods of time to facilitate coal combustion and/or slag tapping.
D. Total emissions of sulfur dioxide from Unit 7, Unit 8 and Unit 9 shall not exceed 1,153 pounds per hour on a 21-day rolling average as calculated in the Reporting and Record keeping section condition C.
E. The owner or operator shall develop an operating and maintenance plan for the Activated Carbon Injection System (CE82), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 95-A-373-P4

Reporting & Record Keeping:

A. The facility shall monitor the percent of sulfur by weight in the diesel fuel as delivered. The documentation may be vendor supplied or facility generated.

Authority for Requirement: 567 IAC 24.108(3)

A. The owner or operator shall monitor emissions from this unit and calculate the annual emissions, in tons per year on a calendar-year basis, for a period of five years following resumption of regular operations after the change made in project 07-355. This information shall be retained by the owner or operator for a period of ten years after project 07-355 is completed (IAC 567 33.3(18)"f"(4) & 33.3(18) "f"(5)).
B. The owner or operator shall make the information required to be documented and maintained pursuant to 567 IAC 33.3(18)"f" for project 07-355 available for review upon request for inspection by the Department or the general public pursuant to the requirements for Title V operating permits contained in 567 IAC 24.107(6).
C. The owner or operator shall maintain a file of computations to show the total hourly emission level for SO_2. The owner or operator shall use the total hourly SO_2 emission rates to calculate and record the average SO_2 emission rate for each calendar day. Effective January 1, 2017, the owner or operator shall use the daily average SO_2 emission rates to demonstrate

compliance with the 21-day rolling average as calculated below:

$SO_2 = 2.03*(\text{Unit 7}) + 0.84*(\text{Unit 8}) + 1.22*(\text{Unit 9})$

Where,

SO_2 = total emissions, in pounds per hour, of sulfur dioxide from Unit 7, Unit 8 and Unit 9

Unit 7 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 7

Unit 8 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 8

Unit 9 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 9

D. The owner or operator shall provide quarterly reports to the Department, no later than 30 calendar days following the end of the calendar quarter as specified in 567 IAC 25.1(6).

E. The owner or operator shall record the amount of diesel oil and/or used oil used on a monthly basis.

F. Using the data collected and recorded by the NOx CEMs, the owner or operator shall record monthly:
   i. NOx emissions from the boiler (tons); and,
   ii. the rolling 12-month total of NOx emissions from the boiler (tons).

G. The owner or operator shall maintain a log of all maintenance and inspection activities performed on the emission unit and control equipment. This log shall include, but is not limited to:
   i. The date and time any inspection and/or maintenance was performed on the emission unit and/or control equipment;
   ii. Any issues identified during the inspection and the date each issue was resolved;
   iii. Any issues addressed during the maintenance activities and the date each issue was resolved; and,
   iv. Identification of the staff person performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 95-A-373-P4

NSPS and NESHAP Requirements

This equipment is subject to the National Emission Standards for Hazardous Air Pollutants: *Coal- and Oil-Fired Electric Utility Steam Generating Units* (MATS) [40 CFR Part 63, Subpart UUUUU].

Compliance Date:

Before July 6, 2027, if your coal-fired or solid oil derived fuel-fired EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a PM CEMS, or, for an existing EGU, compliance performance testing repeated quarterly (40 CFR § 63.10000 (c)(1)(iv)(A)).

Before July 6, 2027, if your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. If your EGU uses wet or dry flue gas desulfurization technology (this includes limestone injection

into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO2) CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO2 emissions limit (40 CFR § 63.10000 (c)(1)(v)).

Before July 6, 2027, if your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to this subpart (40 CFR § 63.10000 (c)(1)(vi)).

On and after July 6, 2027, you may not pursue or continue to use the LEE option for your coal-fired or solid oil derived fuel-fired EGU for filterable PM or for non-mercury HAP metals. You must demonstrate compliance through an initial performance test, and you must monitor continuous performance with the applicable filterable PM emissions limit through the use of a PM CEMS or HAP metals CMS (40 CFR § 63.10000 (c)(1)(iv)(B)).

A. The owner or operator shall comply with the general compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.10000.
B. The owner or operator shall comply with the testing and initial compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.9984, §63.10005, §63.10006, §63.10007, §63.10010, and §63.10011.
C. The owner or operator shall comply with the continuous compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.10020 and §63.10021.
D. The owner or operator shall comply with the notification, reports, and records requirements of NESHAP Subpart UUUUU per 40 CFR §63.10030 through §63.10033.
E. The owner or operator shall comply with the applicable general provisions of NESHAP Subpart A as required per 40 CFR §63.10040.

Authority for Requirement: 40 CFR 63 Subpart UUUUU

This unit is considered an affected source under 40 CFR 72, 73, 75, 76, 77 and 78 definitions. Therefore, this emission unit is subject to the applicable provisions of the Acid Rain Program.

Authority for Requirement: DNR Construction Permit 95-A-373-P4
40 CFR Parts 72, 73, 75, 76, 77, 78

Emission Point Characteristics
This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 225
Stack Diameter (inches, dia.): 102.4
Stack Exhaust Flow Rate (scfm): 229,000
Stack Temperature (^{o}F): 350
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 95-A-373-P4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – Particulate Matter (PM) - State
Stack Test to be Completed – Once every 3 years, last test completed on 06/10/2025 (1) (2)
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M, Method 202
Authority for Requirement - DNR Construction Permit 95-A-373-P4

(1) Testing required by the Title V Operating Permit can be used to satisfy this requirement.
(2) In addition to the PM stack test required above, a stack test for $PM_{2.5}$ is required if the results of any PM test (as a 3 run average) ever exceeds 37.57 pounds per hour. The test stack for PM2.5 shall be conducted within ninety (90) days after the report is received by the Iowa DNR showing the final results of the PM test.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Continuous Emissions Monitoring:

A. The owner or operator shall operate, maintain, and quality assure a continuous emission monitoring system (CEMS) for measuring emissions in the respective units (ppm, lb/hr, etc.) as required in the Emission Limitations section of this permit. The CEMS shall be operated during any period that any fuel is combusted in the boiler.
B. The following monitoring systems are required by this permit:

i. *Opacity*:
The owner or operator shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere.

The owner or operator shall purchase an opacity monitor that complies with ASTM D 6216-98 and obtain a certificate of conformance from the opacity monitor manufacturer.

The owner or operator shall install the opacity monitor at a location where the opacity measurements are representative of the total emissions from the affected facility. The facility must meet this requirement by choosing a measurement location and a light beam path as follows:

a) Measurement Location. Select a measurement location that is (1) at least 4 duct diameters downstream from all particulate control equipment or flow disturbance, (2) at least 2 duct diameters upstream of a flow disturbance, (3) where condensed water vapor is not present, and (4) accessible in order to permit maintenance.
b) Light Beam Path. Select a light beam path that passes through the centroidal area of the stack or duct. Also, the facility must follow the additional requirements or modifications for the measurement locations listed in the table below:

If your measurement location is in a:	**And is:**	**Then use a light beam path that is:**
1. Straight vertical section of stack or duct	Less than 4 equivalent diameters downstream from a bend	In the plane defined by the upstream bend
2. Straight vertical section of stack or duct	Less than 4 equivalent diameters upstream from a bend	In the plane defined by the downstream bend
3. Straight vertical section of stack or duct	Less than 4 equivalent diameters downstream and is also less than 1 diameter upstream from a bend	In the plane defined by the upstream bend
4. Horizontal section of stack or duct	At least 4 equivalent diameters downstream from a vertical bend	In the horizontal plane that is between 1/3 and 1/2 the distance up the vertical axis from the bottom of the duct
5. Horizontal section of duct	Less than 4 equivalent diameters downstream from a vertical bend	In the horizontal plane that is between 1/2 and 2/3 the distance up the vertical axis from the bottom of the duct for upward flow in the vertical section, and is between 1/3 and 1/2 the distance up the vertical axis from the bottom of the duct for downward flow

ii. *SO_2*:
The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CEMS) and record the output of the system, for measuring sulfur dioxide (SO_2) emissions, as follows:

a) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring sulfur dioxide (SO_2) emissions discharged to the atmosphere, or

b) If the owner or operator has installed and certified a SO_2 CEMS according to the requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B that CEMS may be used to meet the SO_2 monitoring requirements provided:
   1) A CO_2 or O_2 continuous monitoring system is installed, calibrated, maintained and operated at the same location.

The CEMS data recorder output range shall include zero and a high-level value. The high-level value shall be chosen and recorded by the owner or operator. The CEMS design shall also allow the determination of calibration drift at the zero and high-level values. If this is not possible or practical, the design must allow these determinations to be conducted at a low-level value (zero to 20 percent of the high-level value) and at a value between 50 and 100 percent of the high-level value.

The CEMS shall be installed at an accessible location where the pollutant concentration or emission rate measurements are directly representative or can be corrected so as to be representative of the total emissions from the affected facility or at the measurement location cross section.

The owner or operator shall develop and implement a QC program. At a minimum, each QC program must include written procedures which describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1) Calibration of CEMS.
2) Calibration drift determination and adjustment of CEMS.
3) Preventive maintenance of CEMS (including spare parts inventory).
4) Data recording, calculations, and reporting.
5) Accuracy audit procedures including sampling and analysis methods.
6) Program of corrective action for malfunctioning CEMS.

Whenever excessive inaccuracies occur for two consecutive quarters, the owner or operator shall revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

These written procedures must be kept on record and available for inspection by the enforcement agency.

The owner or operator shall periodically review the aggregate hourly emissions average and aggregate annual emissions data produced by the CEMS. If the review indicates that either may exceed the emission limitations found in the Emission Limitations section, the owner or operator shall take steps to mitigate SO_2 emissions to, at, or below the applicable limitation.

The owner or operator shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the IDNR, EPA, or any authorized agent of these agencies.

iii. *NOx*:

The owner or operator shall either:

a) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring nitrogen oxides (NO_x) emissions discharged to the atmosphere or

b) If the owner or operator has installed a NO_x emission rate CEMS to meet the requirements of 40 CFR 75 and is continuing to meet the ongoing requirements of 40 CFR 75, that CEMS may be used to meet this requirement.

The CEMS data recorder output range shall include zero and a high-level value. The high-level value shall be chosen and recorded by the owner or operator. The CEMS design shall also allow the determination of calibration drift at the zero and high-level values. If this is not possible or practical, the design must allow these determinations to be conducted at a low-level value (zero to 20 percent of the high-level value) and at a value between 50 and 100 percent of the high-level value.

The CEMS shall be installed at an accessible location where the pollutant concentration or emission rate measurements are directly representative or can be corrected so as to be representative of the total emissions from the affected facility or at the measurement location cross section.

The owner or operator shall develop and implement a QC program. At a minimum, each QC program must include written procedures which describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1) Calibration of CEMS.
2) Calibration drift determination and adjustment of CEMS.
3) Preventive maintenance of CEMS (including spare parts inventory).
4) Data recording, calculations, and reporting.
5) Accuracy audit procedures including sampling and analysis methods.
6) Program of corrective action for malfunctioning CEMS.

Whenever excessive inaccuracies occur for two consecutive quarters, the owner or operator shall revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

These written procedures must be kept on record and available for inspection by the enforcement agency.

iv. *CO*:

Compliance with the carbon monoxide (CO) emission limits of this permit shall be continuously demonstrated by the owner or operator through the use of a CEMS. Therefore, the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring CO emissions discharged to the atmosphere and record the output of the system.

The CEMS data recorder output range shall include zero and a high-level value. The high-level value shall be chosen and recorded by the owner or operator. The CEMS shall

be capable of measuring emission levels under normal conditions and under periods of short-duration peaks of high concentrations.

The owner or operator shall develop and implement a QC program. At a minimum, each QC program must include written procedures which describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1) Calibration of CEMS.
2) Calibration drift determination and adjustment of CEMS.
3) Preventive maintenance of CEMS (including spare parts inventory).
4) Data recording, calculations, and reporting.
5) Accuracy audit procedures including sampling and analysis methods.
6) Program of corrective action for malfunctioning CEMS.

Whenever excessive inaccuracies occur for two consecutive quarters, the owner or operator shall revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

These written procedures must be kept on record and available for inspection by the enforcement agency.

v. *O_2 or CO_2*:

The owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring the oxygen (O_2) or carbon dioxide (CO_2) content of the flue gases at each location where SO_2 emissions are monitored.

C. The CEMS required in condition B above for SO_2, NOx and either O_2 or CO_2 shall be operated and the data recorded during all periods of operation including periods of startup, shutdown, malfunction or emergency conditions, except for CEMS breakdowns, repairs, calibration checks and zero and span adjustments.

D. Muscatine Power and Water shall use the following procedures to calculate the hourly SO_2 mass rate for Boilers 7 and 8.

i. When measurements of SO_2 concentration and flow rate are on a wet basis, use the following equation to compute hourly SO_2 mass emission rate (in lb/hr):

$$E_h = K*C_h*Q_h$$

Where:
E_h = Hourly SO_2 mass emission rate during unit operation, lb/hr.
$K = 1.660 \times 10^{-7}$ for SO_2, (lb/scf)/ppm.
C_h = Hourly average SO_2 concentration during unit operation, stack moisture basis, ppm.
Q_h = Hourly average volumetric flow rate during unit operation, stack moisture basis, scfh.

ii. When measurements by the SO_2 pollutant concentration monitor are on a dry basis and the flow rate monitor measurements are on a wet basis, use the following equation to compute hourly SO_2 mass emission rate (in lb/hr):

$E_h = K*C_{hp}*Q_{hs}*[(100 - \%H_2O)/100]$

Where:
E_h = Hourly SO_2 mass emission rate during unit operation, lb/hr.
$K = 1.660\times10^{-7}$ for SO_2, (lb/scf)/ppm.
C_{hp} = Hourly average SO_2 concentration during unit operation, ppm (dry).
Q_{hs} = Hourly average volumetric flow rate during unit operation, scfh as measured (wet).
$\%H_2O$ = Hourly average stack moisture content during unit operation, percent by volume.

At the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate the aggregate daily emissions rate, summing all SO_2 emissions from boilers 7 and 8 for that day. Likewise, at the conclusion of each clock hour on a boiler operating day, Muscatine Power and Water shall calculate the aggregate average hourly emissions rate for Boilers 7 and 8, as the sum of all hourly emissions from Boilers 7 and 8 divided by the time elapsed on that day. Lastly, Muscatine Power and Water shall calculate aggregate annual emissions from Boilers 7 and 8, either as the sum of all hourly emissions or the sum of all daily emissions collected or substituted since January 1 of the current emissions year. For the purposes of this condition, a boiler operating day is any day in which any fuel is combusted in any of the affected boilers. A day shall be defined as the time between 12:01 AM and 12:00 midnight.

E. Muscatine Power and Water shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the Iowa Department of Natural Resources, the Environmental Protection Agency, or any authorized agent of these agencies

F. Muscatine Power and Water shall provide a written report of all exceedances of the aggregate hourly emissions average for Boilers 7 and 8 no later than 30-days following the end of each calendar quarter on forms provided by the Department. In addition, Muscatine Power and Water shall report the aggregate annual emissions for Boilers 7 and 8 in each quarterly report, summarizing the year-end totals in the fourth-quarter report.

G. The following data requirements shall apply to all CEMS for the emission standards in this permit:

i. The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

ii. The 1-hour average SO_2, NOx, CO, and CO_2 emission rates measured by the CEMS required by this permit shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.

iii. For each hour of missing emission data (NOx, SO_2, CO, and CO_2), the owner or operator shall substitute data by:

For SO_2, CO and CO_2:

a) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For the missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
   2) For a missing data period greater than 24 hours, substitute the greater of:
      - The 90th percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
      - The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
   2) For the missing data period of more than 8 hours, substitute the greater of:
      - The 95th percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
      - The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

For NOx:

a) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 24 hours, substitute, as applicable, for each missing hour, the arithmetic average recorded by the monitoring system during the previous 2160 quality assured monitor operating hours at the corresponding unit load range or operational bin.
   2) For a missing data period greater than 24 hours, substitute the greater of:
      - The 90th percentile hourly concentration recorded by a pollutant concentration monitor during the previous 2160 quality-assured monitor operating hours at the corresponding unit load range or operational bin; or

- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 8 hours substitute, as applicable, the arithmetic average hourly emission rate recorded by a monitoring system during the previous 2160 quality-assured monitor operating hours at the corresponding unit load range or operational bin.
   2) For the missing data period of more than 8 hours, substitute the greater of:
      - The 95th percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 2160 quality-assured monitor operating hours; or
      - The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

H. If requested by the Department, the owner/operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

Authority for Requirement: DNR Construction Permit 95-A-373-P4

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 24.108(3)

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return

operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the exceedance to the department and conduct source testing within 90 days of the exceedance to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Monitoring Methods and Corrective Actions

Compliance Assurance Monitoring (CAM) Plan for CE80A Electrostatic Precipitator

I. Background

A. Emissions Unit:

Identification:	EP80/EU80
Description:	Unit 8 Cyclone Boiler
Facility:	Muscatine Power & Water, 1700 Dick Drake Way, Muscatine, Iowa 52761

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Applicable regulation:	DNR Construction Permit 95-A-373-P4
PM Emission Limit:	267 lb/hr, 1,169 tons/yr, 0.30 lb/MMBtu
PM_{10} Emission Limits:	266.9 lb/hr

C. Current Monitoring Requirements:
Stack Testing
Continuous Opacity Monitoring (COMS) ME80A
Audible Precipitator various “Malfunction" Alarms

D. Current Technology: Electrostatic Precipitator

II. Monitoring Approach:

1. Indicator	Opacity of ESP exhaust	Audible Precipitator “Malfunction" Alarm
Measurement Approach	COMS in ESP exhaust	The audible and visual alarm continuously monitors T-R set failure and rapper control malfunction.
2. Indicator Range	A CAM excursion will be defined as **opacity exceeding**	A CAM excursion will be defined as **Failure of three T-R sets or more than**

	25% over any 1-hour averaging period. Except during startup, shutdown, or cleaning of control equipment as per 567 IAC 24.1(1). Corrective action will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand, after it is determined that the opacity monitor is functioning properly.	**32 of the rappers.** Corrective action measures will be implemented on the occurrence of a “Malfunction" alarm. The appropriate measures for remediation will be implemented within eight hours plus the period of time until generating capacity is available to meet customer demand. Random T-R set failure and rapper failure (up to two T-R set and 31 of the rappers) will not significantly affect precipitator performance.
3. Performance Criteria A. Data Representativeness	COMS installed at a representative location in the ESP exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1).	Rapper system operation, T-R set operation and ash removal system operation are indicators of the proper electromechanical operation of the ESP. An audible alarm will continuously monitor T-R set failure and rapper control health. Daily inspection of the rapper system operation, T-R sets and ash removal system provide additional assurance of proper electromechanical operation of the ESP.
B. Verification of Operational Status	Results of initial COMS performance evaluation conducted per PS-1 (July 2000).	Results of equipment verification tests conducted to calibrate the audible and visible alarm displays.
C. QA/QC Practices/Criteria	Installation and evaluation of the COMS per PS-1. The continuous opacity monitor is automatically calibrated for zero and span adjustments daily.	All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture’s specifications.
D. Monitoring Frequency	Monitor the opacity of the ESP exhaust continuously (every 10 seconds).	An audible alarm will continuously (greater than four times per hour) monitor T-R set failure and rapper control malfunction.
E. Data Collection Procedures	Set up the data acquisition system (DAS) to retain all 6-minute average opacity data.	Maintain records of T-R and rapper failures exceeding CAM thresholds for longer than one hour.

F. Averaging period	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate hourly block average opacity for the CAM.	N/A

III. Quality Improvement Plan (QIP):

A Quality Improvement Plan (QIP) will be required to be submitted to the IDNR if an accumulation of excursions of either the opacity indicator or the T-R and rapper alarms exceed 5 percent of the boiler's normal operating time for a 6-month reporting period. All requirements in 40 CFR 64.8(b) shall be fulfilled if a QIP is required.

IV. Quality Assurance and Quality Control:

In addition to monitoring the opacity and T-R / rapper alarms, MP&W will conduct the following activities to assure compliance. The following monitoring is not required during periods of time greater than one day in which the source does not operate.

A. Monitor detection equipment, including alarm displays in the control room, which alert operators to irregular operating conditions such as high hopper levels, high opacity, and continuous opacity monitoring system (COMS) failure.
B. Conduct daily inspections of the ESP electromechanical operation:
   - Inspection of rapper operation
   - Inspection of T-R set operation including power usage level
   - Inspection of ash removal system operation
C. Each Major Scheduled Unit Outage (typically lasting four or more weeks):
   - Check and correct plate/electrode alignment
   - Inspect for collection surface fouling
   - Inspect T-R set mechanical condition
   - Inspect internal structural components
   - Evaluate and correct ash transport system wear areas

Corrective action to correct abnormal operating conditions will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand.

D. Record Keeping and Recording:
   - Records of all daily inspections and any actions resulting from these inspections will be kept for five years.
   - Records of all planned unit outage inspections and any actions resulting from these inspections will be kept for five years.
   - MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken. 40 CFR 64.9(a)(2)(i).

- MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). 40 CFR 64.9(a)(2)(ii).
- All excursions and monitor downtime incidents will be reported in semi-annual monitoring reports and annual compliance certifications.

E. Quality Control:
- All instruments and equipment will be calibrated, maintained, and operated according to the manufacturer's specifications.
- An inventory of spare parts will be maintained. Parts will be re-ordered as they are used.

Authority for requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: 88

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
88	Activated Carbon Storage Silo	CE88 Bin Vent Filter	Activated Carbon	20 tons/hr (fill rate) 35.5 tons (bulk storage)	15-A-459

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 15-A-459
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of (10%) will required the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0092 lb/hr
Authority for Requirement: DNR Construction Permit 15-A-459

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.085 lb/hr
Authority for Requirement: DNR Construction Permit 15-A-459

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.085 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 15-A-459
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall develop an operating and maintenance plan for the Bin Vent Filter (CE88) including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 15-A-459

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Bin Vent Filter (CE88, CE98).

Authority for Requirement: DNR Construction Permit 15-A-459

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 57.9
Stack Opening, (inches, dia.): 8
Exhaust Flow Rate (scfm): 1,000
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Obstructed
Authority for Requirement: DNR Construction Permit 15-A-459

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: 98

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
98	Activated Carbon Storage Silo	CE98: Bin Vent Filter	Activated Carbon	25 tons/hr (fill rate) 50.5 tons (bulk storage)	15-A-460

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 15-A-460
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of (10%) will required the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0092 lb/hr
Authority for Requirement: DNR Construction Permit 15-A-460

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.085 lb/hr
Authority for Requirement: DNR Construction Permit 15-A-460

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.085 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 15-A-460
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall develop an operating and maintenance plan for the Bin Vent Filter (CE98) including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 15-A-460

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Bin Vent Filter (CE98).

Authority for Requirement: DNR Construction Permit 15-A-460

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 68.7
Stack Opening, (inches, dia.): 8
Exhaust Flow Rate (scfm): 1,000
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Obstructed
Authority for Requirement: DNR Construction Permit 15-A-460

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 810

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
CE810A	Filter/Separator Dust Collector DC-6A	CE811: Cartridge Filter – Final Filter	Fly Ash	8 tons/hr	00-A-639-S1
CE810B					

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 00-A-639-S1
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of (10%) will required the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.056 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 00-A-639-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.190 lb/hr
Authority for Requirement: DNR Construction Permit 00-A-639-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.025 gr/dscf
Authority for Requirement: DNR Construction Permit 00-A-639-S1

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall develop an operating and maintenance plan for the baghouse including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 00-A-639-S1

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the baghouse.

Authority for Requirement: DNR Construction Permit 00-A-639-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet from the ground): 142
Stack Diameter (inches): 16
Stack Exhaust Flow Rate (scfm): 890
Stack Temperature (^{o}F): 93
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 00-A-639-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 813 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
810	Fly Ash Silo	Fly Ash	8 tons/hr	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 814

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
810	Fly Ash Silo	CE812: Bin Vent Filter	Fly Ash	8 tons/hr	01-A-218-S1
811	Dry Fly Ash Truck Loading			20 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 01-A-218-S1
567 IAC 23.3(2)"d"

(1)An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0013 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 01-A-218-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.004 lb/hr
Authority for Requirement: DNR Construction Permit 01-A-218-S1
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 01-A-218-S1
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall not fill the fly ash silo (EU810) and load fly ash into trucks (EU811) at the same time.
B. The owner or operator shall develop an operating and maintenance plan for the bin vent filter including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 01-A-218-S1

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of any time when both the fly ash silo was loaded and fly ash was loaded into trucks.
B. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the bin vent filter.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 01-A-218-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet from the ground): 65
Stack Diameter (inches): 8
Stack Exhaust Flow Rate (scfm): 5
Stack Temperature (^{o}F): 150
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 01-A-218-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 90

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
90	Unit 9 Dry Bottom Tangential Fired Boiler	CE91: DESP CE92: DESP CE93: Wet Limestone Scrubber CE94: Wet Limestone Scrubber CE95: Over Fire Air	Bituminous Coal, Subbituminous Coal, and/or Fuel Oil	1,556 MMBtu/hr (Coal or Fuel Oil) 72.24 tons/hr Bituminous Coal 94.27 tons/hr Subbituminous Coal 1,725.6 gal/hr Fuel Oil	80-A-191-P4

Continuous Emissions Monitors ID Numbers: ME90B, ME91A, ME92, ME95A, ME96A, ME97, ME98A, and ME93

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 20% (1)
Authority for Requirement: DNR Construction Permit 80-A-191-P4
567 IAC 23.1(2)"z"
40 CFR 60 Subpart Da

(1) Except for one 6-minute period per hour of not greater than 27% opacity. Standard is a 6-minute average.

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limits: 43.59 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-191-P4

Pollutant: Particulate Matter (PM_{10})
Emission Limits: 46.68 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-191-P4

Pollutant: Federal Particulate Matter (PM)
Emission Limits: 0.03 lb/MMBtu (2)
Authority for Requirement: DNR Construction Permit 80-A-191-P4
567 IAC 23.1(2)"z"
40 CFR 60 Subpart Da
EPA PSD Permit 80-E-001 dated 1/24/80, and revision 80-E-001-S dated 9/6/83

[2] Standard also requires 1% potential combustion concentration (99% reduction) when combusting solid fuel, and 30% potential combustion concentration (70% reduction) when combusting liquid fuel (40 CFR 60.42Da(a). Compliance with the 0.03 lb/MMBtu standard constitutes compliance with the percent reduction requirements (40 CFR 60.48Da(a).) This standard applies at all times except during periods of startup, shutdown or malfunction (40 CFR 60.48Da(c)).

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 70% reduction [3]
Authority for Requirement: DNR Construction Permit 80-A-191-P4
40 FR 60 Subpart Da

[3] When combusting solid or solid-derived fuels, 30% of the potential combustion concentration (70% reduction). When combusting liquid or gaseous fuels, 0.8 lb/MMBtu and 10% of the potential combustion concentration, or 100% of the potential combustion concentration (zero percent reduction) when emissions are less than 0.20 lb/MMBtu. If different fuels are combusted simultaneously, the applicable standard is determined by proration using the formula set forth in 40 CFR 60.43Da(h)(2). Standard is a 30-day rolling average. (40 CFR 60.43Da(g)). After the initial performance test, compliance with the SO2 emission limitations and percentage reduction requirements under 60.43Da is based on the average emission rate for 30 successive boiler operating days. A separate performance tests is completed at the end of each boiler operating day after the initial performance test, and a new 30 day average emission rate for SO2 and a new percent reduction for SO2 are calculated to show compliance with the standards (40 CFR 60.48Da(e)) . Compliance shall be demonstrated by following the procedures in 40 CFR 60.48Da(g) and (h)).

Pollutant: Sulfur Dioxide (SO_2) - total
RACT Emission Limit: 1,153 lb/hr [4]
Authority for Requirement: DNR Construction Permit 80-A-191-P4

[4] Shall be determined on a 21-day rolling average basis and includes startup, shutdown and malfunction emissions. This is a combined limit for EP 70, EP 80, and EP 90.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limits: 0.60 lb/MMBtu [5], 65% reduction [6], 0.235 lb/MMBtu [7]
Authority for Requirement: DNR Construction Permit 80-A-191-P4
40 CFR 60 Subpart Da

[5] For bituminous coal. Limit for subbituminous coal is 0.50 lb/MMBtu, limit for oil is 0.30 lb/MMBtu, limit for gas is 0.20 lb/MMBtu, and for other fuel types, or if two or more fuels are combusted simultaneously, the NOx BACT limit shall be the limit specified in 40 CFR 60.44Da(a) and/or as determined by the proration procedures specified in 40 CFR 60.44a(c). Standard is a 30-day rolling average. This standard applies at all times except during periods of startup, shutdown or malfunction (40 CFR 60.48Da(c)). After the initial performance test, compliance with the NOx emission limitations under 60.44Da is based on the average emission rate for 30 successive boiler operating days. A separate performance tests is completed at the end of each boiler operating day after the initial performance test, and a new 30 day average emission rate for NOx are calculated to show compliance with the standards (40 CFR 60.48Da(e)). Compliance shall be demonstrated by following the procedures in 40 CFR 60.48Da(g) and (h)).
[6] For solid fuels. For liquid fuels, standard is a 30% reduction of potential combustion concentration. Compliance with the lb/MMBtu standard constitutes compliance with the percent reduction requirements (40 CFR 60.48a(b).).
[7] As requested to remain an insignificant increase for PSD and to meet Acid Rain requirements in 40 CFR 76.6. Standard is a twelve month rolling average, and includes startup, shutdown and malfunctions.

Pollutant: Carbon Monoxide (CO)
Emission Limits: 329.2 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-191-P4

BACT/LAER Limits
Pollutant: Particulate Matter (PM)
Emission Limits: 0.03 lb/MMBtu
Authority for Requirement: DNR Construction Permit 80-A-191-P4
EPA PSD Permit 80-E-001 dated 01/24/80, and revision 80-E-001-S dated 9/6/83
567 IAC 31.20(1)"d"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limits: 0.6 lb/MMBtu [(1)]
Authority for Requirement: DNR Construction Permit 80-A-191-P4
EPA PSD Permit 80-E-011 dated 01/24/80, and revision 80-E-001-S dated 9/6/83
[(1)] For bituminous coal. BACT NOx limits are the NOx emissions specified in NSPS Subpart Da, so limit for subbituminous coal is 0.50 lb/MMBtu, limit for oil is 0.30 lb/MMBtu, limit for gas is 0.20 lb/MMBtu, and for other fuel types, or if two or more fuels are combusted simultaneously, the NOx BACT limit shall be the limit specified in 40 CFR 60.44a(a) and/or as determined by the proration procedures specified in 40 CFR 60.44a(c). Reference EPA permit 80-E-001 of January 24, 1980. Standard is a 30-day rolling average.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 0.56 lb/MMBtu [(2)], 0.45 lb/MMBtu [(3)], 92% reduction [(4)]
Authority for Requirement: DNR Construction Permit 80-A-191-P4
EPA PSD permit 80-E-001 dated 1/24/80, revision 80-E-001-S dated 9/6/83
567 IAC 31.20(1)"d"
[(2)] 24 hour calendar day average
[(3)] 0.45 lb/MMBtu 30 day rolling average
[(4)] 30-day rolling average for the flue gas desulfurization system

Pollutant: Carbon Monoxide (CO)
Emission Limits: 720 tons/yr [(5)], 100 ppm [(6)]
Authority for Requirement: DNR Construction Permit 80-A-191-P4
[(5)] Standard is a 12-month rolling total, and includes startup, shutdown, and malfunctions.
[(6)] Standard is averaged over a calendar day, and does not include startup, shutdown and malfunction.

Acid Rain Limits
Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: Sulfur Dioxide Allowances
Authority for Requirement: 567 IAC 24.108(7)(See attached Phase II Permit in appendix)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limits: See attached Phase II Acid Rain Permit
Authority for Requirement: 567 IAC 22.125(4) (Attached Phase II Acid Rain Permit)
40 CFR 76.7(a)(1)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limits: 0.40 lb/MMBtu
Authority for Requirement: 40 CFR 76 (a)(1) Acid Rain Program

Cross-State Air Pollution Rule (aka Transport Rule (TR)) Limit
Pollutant: Nitrogen Oxides (NO_x) Annual, Nitrogen Oxides (NOX) Ozone Season Group 2, Sulfur Dioxide (SO_2) Group 1
Emission Limits: Nitrogen Oxides and Sulfur Dioxide Allowance
Authority for Requirement: 40 CFR Part 97 (See Appendix B for requirements)

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. This emissions unit shall be limited to firing on coal and fuel oil.
B. The owner or operator shall develop an operating and maintenance plan for the scrubbers, CE93 & CE94, the electrostatic precipitators, CE91 & CE92, and the activated carbon injection system (CE96) including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
C. Total emissions of sulfur dioxide from Unit 7, Unit 8 and Unit 9 shall not exceed 1,153 pounds per hour on a 21-day rolling average as calculated in the Reporting and Record Keeping section condition C.

Authority for Requirement: DNR Construction Permit 80-A-191-P4

Reporting & Record Keeping:
A. The owner or operator shall monitor emissions from this unit and calculate the annual emissions, in tons per year on a calendar-year basis, for a period of five years following resumption of regular operations after the change made in Project 07-355. This information shall be retained by the owner or operator for a period of ten years after Project 07-355 was completed (IAC 567 33.3(18)"f"(4) & 33.3(18) "f"(5)).
B. The owner or operator shall make the information required to be documented and maintained pursuant to IAC 567-33.3(18)"f" available for review upon request for inspection by the Department or the general public pursuant to the requirements for Title V operating permits contained in 567-24.107(6).
C. The owner or operator shall maintain a file of computations to show the total hourly emission level for SO_2. The owner or operator shall use the total hourly SO_2 emission rates to calculate and record the average SO_2 emission rate for each calendar day. Effective January 1, 2017, the owner or operator shall use the daily average SO_2 emission rates to demonstrate compliance with the 21-day rolling average as calculated below:

$SO_2 = 2.03*(\text{Unit 7}) + 0.84*(\text{Unit 8}) + 1.22*(\text{Unit 9})$

Where,

SO_2 = total emissions, in pounds per hour, of sulfur dioxide from Unit 7, Unit 8 and Unit 9

Unit 7 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 7

Unit 8 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 8
Unit 9 = 24-hour average sulfur dioxide emission rate, lb/hr, for Unit 9

The owner or operator shall provide quarterly reports to the Department, no later than 30 calendar days following the end of the calendar quarter as specified in 567 IAC 25.1(6).

D. The owner or operator shall maintain a log of all maintenance and inspection activities performed on the emission unit and control equipment. This log shall include, but is not limited to:
   i. The date and time any inspection and/or maintenance was performed on the emission unit and/or control equipment;
   ii. Any issues identified during the inspection and the date each issue was resolved;
   iii. Any issues addressed during the maintenance activities and the date each issue was resolved; and,
   iv. Identification of the staff person performing the maintenance or inspection.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-191-P4

NSPS and NESHAP Requirements:

This unit is subject to the NSPS standard Subpart Da, *Standards of Performance for Electric Utility Steam Generating Unit for which Construction is Commenced After September 18, 1978*.

This unit is considered an affected source under 40 CFR 72, 73, 75, 76, 77 and 78 definitions. Therefore, this emission unit is subject to the applicable provisions of the Acid Rain Program.

Authority for Requirement: DNR Construction Permit 80-A-191-P4

This equipment is subject to the National Emission Standards for Hazardous Air Pollutants: *Coal- and Oil-Fired Electric Utility Steam Generating Units* (MATS) [40 CFR Part 63, Subpart UUUUU].

Compliance Date:

Before July 6, 2027, if your coal-fired or solid oil derived fuel-fired EGU does not qualify as a LEE for total non-mercury HAP metals, individual non-mercury HAP metals, or filterable particulate matter (PM), you must demonstrate compliance through an initial performance test and you must monitor continuous performance through either use of a particulate matter continuous parametric monitoring system (PM CPMS), a PM CEMS, or, for an existing EGU, compliance performance testing repeated quarterly (40 CFR § 63.10000 (c)(1)(iv)(A)).

Before July 6, 2027, if your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for hydrogen chloride (HCl), you may demonstrate initial and continuous compliance through use of an HCl CEMS, installed and operated in accordance with Appendix B to this subpart. As an alternative to HCl CEMS, you may demonstrate initial and continuous compliance by conducting an initial and periodic quarterly performance stack test for HCl. If your EGU uses wet or dry flue gas desulfurization
technology (this includes limestone injection into a fluidized bed combustion unit), you may apply a second alternative to HCl CEMS by installing and operating a sulfur dioxide (SO2)

CEMS installed and operated in accordance with part 75 of this chapter to demonstrate compliance with the applicable SO2 emissions limit (40 CFR § 63.10000 (c)(1)(v)).

Before July 6, 2027, if your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to this subpart (40 CFR § 63.10000 (c)(1)(vi)).

On and after July 6, 2027, you may not pursue or continue to use the LEE option for your coal-fired or solid oil derived fuel-fired EGU for filterable PM or for non-mercury HAP metals. You must demonstrate compliance through an initial performance test, and you must monitor continuous performance with the applicable filterable PM emissions limit through the use of a PM CEMS or HAP metals CMS (40 CFR § 63.10000 (c)(1)(iv)(B)).

A. The owner or operator shall comply with the general compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.10000.
B. The owner or operator shall comply with the testing and initial compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.9984, §63.10005, §63.10006, §63.10007, §63.10010, and §63.10011,.
C. The owner or operator shall comply with the continuous compliance requirements of NESHAP Subpart UUUUU per 40 CFR §63.10020 and §63.10021.
D. The owner or operator shall comply with the notification, reports, and records requirements of NESHAP Subpart UUUUU per 40 CFR §63.10030 through §63.10033.
E. The owner or operator shall comply with the applicable general provisions of NESHAP Subpart A as required per 40 CFR §63.10040.

Authority for Requirement: 40 CFR 63 Subpart UUUUU

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 300
Stack Opening (inches, dia.): 126
Exhaust Temperature (^{o}F): 180
Exhaust Flowrate (scfm): 430,625
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-191-P4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – Particulate Matter (PM) - State

Stack Test to be Completed – Once every 3 years, last test completed on 06/04/2024. The following tests should be completed by 06/04/2027 and 06/04/2030, respectively

Test Method – 40 CFR 60, Appendix A, Method 5

40 CFR 51, Appendix M, Method 202

Authority for Requirement: DNR Construction Permit 80-A-191-P4

(1)Testing required by the Title V Operating Permit can be used to satisfy this requirement.

(2)Stack test for $PM_{2.5}$ is required if the results of any PM test (as a 3 run average) ever exceeds 43.59 pounds per hour. The test stack for $PM_{2.5}$ shall be conducted within ninety (90) days after the report is received by the Iowa DNR showing the final results of the PM test.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Continuous Emissions Monitoring:

A. The owner or operator shall operate, maintain, and quality assure a continuous emission monitoring system (CEMS) for measuring emissions in the respective units (ppm, lb/hr, etc.) as required in the Emission Limitations section. The CEMS shall be operated during any period that any fuel is combusted in the boiler.

B. The following monitoring systems are required by this permit:

i. *Opacity*:

In accordance with 40 CFR §60.49Da(a), the owner or operator shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere.

If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), the opacity is monitored upstream of the interference (at the inlet to the FGD system). If opacity interference is experienced at all locations (both at the inlet and outlet of the sulfur dioxide control system), alternate parameters indicative of the particulate matter control system's performance are monitored (subject to the approval of the Administrator).

The system shall be designed to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 (PS1).

ii. *SO_2*:

In accordance with 40 CFR §60.49Da(b), the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system (CEMS) and record the output of the system, for measuring sulfur dioxide (SO_2) emissions, as follows:

a) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring sulfur dioxide (SO_2) emissions discharged to the atmosphere, or

b) If the owner or operator has installed and certified a SO_2 CEMS according to the requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B that CEMS may be used to meet the SO_2 monitoring requirements provided:
    1) A CO_2 or O_2 continuous monitoring system is installed, calibrated, maintained and operated at the same location in accordance with 40 CFR §60.49Da(d); and,
    2) For sources subject to an SO_2 emission limit in lb/MMBtu under §60.43Da:
        - When relative accuracy testing is conducted, the SO_2 concentration data and the CO_2 (or O_2) data are collected simultaneously; and,
        - In addition to meeting the applicable SO_2 and CO_2 (or O_2) relative accuracy specifications in Figure 2 of 40 CFR 75 Appendix B, the relative accuracy (RA) standard in 40 CFR 60, Appendix B, Performance Specification 2 (PS2), Section 13.2 is met when the RA is calculated on a lb/MMBtu basis; and,
    3) The reporting requirements of 40 CFR §60.51Da are met. The SO_2 and CO_2 (or O_2) data reported to meet the requirements of 40 CFR §60.51Da shall not include substitute data values derived from the missing data procedures in 40 CFR 75, Subpart D nor shall the SO_2 data have been bias adjusted according to the procedures of 40 CFR 75.

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply.

The owner or operator shall periodically review the aggregate hourly emissions average and aggregate annual emissions data produced by the CEMS. If the review indicates that either may exceed the emission limitations found in Condition 10, the owner or operator shall take steps to mitigate SO_2 emissions to, at, or below the applicable limitation.

The owner or operator shall maintain an on-site record of CEMS-related data for not less than two years from the origination. The record shall contain all hourly SO_2 and flow rate measurements, any missing data substitution, subsequent aggregate and averaging calculation, results of quality assurance and averaging calculations, results of quality assurance activities, and all performance test results. These records shall be made readily available for inspection by the IDNR, EPA, or any authorized agent of these agencies.

This monitor shall also be used to demonstrate compliance with the non-NSPS emission standards in this permit

iii. *NOx*:

In accordance with 40 CFR §60.49Da(c), the owner or operator shall either:

a) Install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring nitrogen oxides (NO_x) emissions discharged to the atmosphere or
b) If the owner or operator has installed a NO_x emission rate CEMS to meet the requirements of 40 CFR 75 and is continuing to meet the ongoing requirements of 40 CFR 75, that CEMS may be used to meet the requirements of 40 CFR §60.49Da(c), except that the owner or operator shall also meet the requirements of 40 CFR §60.51Da. Data reported to meet the requirements of 40 CFR §60.51Da shall not

include data substituted using the missing data procedures in 40 CFR 75, Subpart D nor shall the data have been bias adjusted according to the procedures of 40 CFR 75.

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR Appendix F (Quality Assurance/Quality Control) shall apply.

This monitor shall also be used to demonstrate compliance with the non-NSPS emission standards in this permit.

iv. *CO*:

Compliance with the carbon monoxide (CO) emission limits of this permit shall be continuously demonstrated by the owner or operator through the use of a CEMS. Therefore, the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring CO emissions discharged to the atmosphere and record the output of the system.

The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 4A (PS4A) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply.

v. *O_2 or CO_2*:

In accordance with 40 CFR §60.49Da, the owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring the oxygen (O_2) or carbon dioxide (CO_2) content of the flue gases at each location where SO_2 or NOx emissions are monitored.

vi. *Flowmeter*:

Per 40 CFR §60.49Da(l), the owner or operator demonstrating compliance with the output-based standard under 40 CFR §60.42Da, 40 CFR §60.43Da, 40 CFR §60.44Da, or 40 CFR §60.45Da shall install, certify, operate, and maintain a continuous flow monitoring system meeting the requirements of 40 CFR 60, Appendix B, Performance Specification 6 and 40 CFR 60, Appendix F, Procedure 1. In addition, the owner or operator shall record the output of the system, for measuring the volumetric flow of exhaust gases discharged to the atmosphere, or

Alternatively, data from a continuous flow monitoring system certified according to the requirements of 40 CFR §75.20(c) and 40 CFR 75, Appendix A, and continuing to meet the applicable quality control and quality assurance requirements of 40 CFR §75.21 and 40 CFR 75, Appendix B, may be used.

C. The CEMS required in the Continuous Emissions Monitoring section condition B for SO_2, NOx and either O_2 or CO_2 shall be operated and the data recorded during all periods of operation including periods of startup, shutdown, malfunction or emergency conditions, except for CEMS breakdowns, repairs, calibration checks and zero and span adjustments.
D. In accordance with 40 CFR §60.49Da(f)(1), the owner or operator shall obtain emission data for at least 18 hours in at least 22 out of 30 successive boiler operating days. If this minimum data cannot be met with a CEMS, the owner or operator shall supplement the

emission data with monitoring systems approved by the Administrator (40 CFR Part 60 approved reference methods and procedures are listed below):

i. 40 CFR 60, Method 6 shall be used to determine the SO_2 concentration at the same location as the SO_2 monitor. Samples shall be taken at 60-minute intervals. The sampling time and sample volume for each sample shall be at least 20 minutes and 0.020 dscm (0.71 dscf). Each sample represents a 1-hour average.

ii. 40 CFR 60, Method 7 shall be used to determine the NO_x concentration at the same location as the NO_x monitor. Samples shall be taken at 30-minute intervals. The arithmetic average of two consecutive samples represents a 1-hour average.

iii. The emission rate correction factor, integrated bag sampling and analysis procedure of 40 CFR 60, Appendix A, Method 3B shall be used to determine the O_2 or CO_2 concentration at the same location as the O_2 or CO_2 monitor. Samples shall be taken for at least 30 minutes in each hour. Each sample represents a 1-hour average.

iv. The procedures in 40 CFR 60, Appendix A, Method 19 shall be used to compute each 1-hour average concentration in ng/J (1b/million Btu) heat input.

Acceptable alternative methods and procedures are given in condition F below.

E. Per 40 CFR §60.49Da(i), the owner or operator shall use the following methods and procedures to conduct monitoring system performance evaluations under 40 CFR §60.13(c) and calibration checks under 40 CFR §60.13(d):

i. Methods 3B, 6, and 7 shall be used to determine O_2, SO_2, and NO_x concentrations, respectively.

ii. SO_2 or NO_x (NO), as applicable, shall be used for preparing the calibration gas mixtures (in N_2, as applicable) under 40 CFR 60, Appendix B, Performance Specification 2.

iii. The span value for a continuous monitoring system for measuring opacity is between 60 and 80 percent.

iv. The span value for a continuous monitoring system measuring NO_x shall be:

a) 1,000 ppm; or

b) the owner or operator of an affected facility may elect to use the NO_X span values determined according to Section 2.1.2 in Appendix A to 40 CFR Part 75.

v. The span value of the sulfur dioxide continuous monitoring system at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential emissions of the fuel fired, and the outlet of the sulfur dioxide control device is 50 percent of maximum estimated hourly potential emissions of the fuel fired. Should the facility opt to determine span values for NOx under the Continuous Emissions Monitoring section condition E.4.ii, SO_2 span values shall be determined according to Section 2.1.1 in Appendix A to 40 CFR Part 75.

vi. The facility may elect to implement the following alternative data accuracy assessment procedures. For all required CO_2 and O_2 CEMS and for SO_2 and NO_X CEMS with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with Section 2.2.1 of Appendix B to 40 CFR Part 75, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, Section 5.1.2 of Appendix F to 40 CFR Part 60. If this option is selected: The frequency of the linearity checks shall be as specified in Section 2.2.1 of Appendix B to 40 CFR Part 75; the applicable linearity specifications in Section 3.2 of Appendix A to 40 CFR Part 75 shall be met; the data validation and out-of-

control criteria in Section 2.2.3 of Appendix B to 40 CFR Part 75 shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, Section 5.2 of Appendix F to 40 CFR Part 60; and the grace period provisions in Section 2.2.4 of Appendix B to 40 CFR Part 75 shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, Section 5.1.2 of Appendix F to 40 CFR Part 60 shall be performed for SO_2 and NO_X span values less than or equal to 30 ppm.

F. The owner or operator may use the following as alternatives to the reference methods and procedures specified:
   i. For 40 CFR 60, Appendix A: 40 CFR 60, Appendix A, Method 6, Method 6A or Method 6B (whenever 40 CFR 60, Appendix A, Method 6 and Method 3 or Method 3B data are used) or 40 CFR 60, Appendix A, Method 6C may be used. Each Method 6B sample obtained over 24 hours represents 24 1-hour averages. If either 40 CFR 60, Appendix A, Method 6A or 40 CFR 60, Appendix A, Method 6B is used under 40 CFR §60.49Da(i), the conditions under 40 CFR §60.49Da(d)(1) apply. These conditions do not apply under 40 CFR §60.49Da(h).
   ii. For 40 CFR 60, Appendix A: 40 CFR 60, Appendix A, Method 7, Method 7A, 7C, 7D, or 7E may be used. If Method 7C, 7D, or 7E is used, the sampling time for each run shall be 1 hour.
   iii. For 40 CFR 60, Appendix A, Method 3: 40 CFR 60, Appendix A, Method 3A or 3B may be used if the sampling time is 1 hour.
   iv. For 40 CFR 60, Appendix A, Method 3B: 40 CFR 60, Appendix A, Method 3A may be used

G. The following data requirements shall apply to all CEMS for non-NSPS emission standards in this permit:
   i. The CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
   ii. The 1-hour average SO_2, NOx, CO, and CO_2 emission rates measured by the CEMS required by this permit shall be used to calculate compliance with the emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.
   iii. For each hour of missing emission data (NOx, SO_2, CO, and CO_2), the owner or operator shall substitute data by:

      For SO_2, CO and CO_2:
      a) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
         1) For the missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
         2) For a missing data period greater than 24 hours, substitute the greater of:
            - The 90^{th} percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or

- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 8 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
   2) For the missing data period of more than 8 hours, substitute the greater of:
      - The 95th percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
      - The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

For NOx:

a) If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 24 hours, substitute, as applicable, for each missing hour, the arithmetic average recorded by the monitoring system during the previous 2160 quality assured monitor operating hours at the corresponding unit load range or operational bin.
   2) For a missing data period greater than 24 hours, substitute the greater of:
      - The 90th percentile hourly concentration recorded by a pollutant concentration monitor during the previous 2160 quality-assured monitor operating hours at the corresponding unit load range or operational bin; or
      - The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

b) If the monitor data availability is at least 90.0% but less than 95.0%, the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
   1) For a missing data period of less than or equal to 8 hours substitute, as applicable, the arithmetic average hourly emission rate recorded by a monitoring system during the previous 2160 quality-assured monitor operating hours at the corresponding unit load range or operational bin.
   2) For the missing data period of more than 8 hours, substitute the greater of:

- The 95th percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 2160 quality-assured monitor operating hours; or
- The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.

c) If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

H. If requested by the Department, the owner/operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

Authority for Requirement: DNR Construction Permit 80-A-191-P4
EPA PSD Permit 80-E-001 dated 1/24/80, and revision 80-E-001-S dated 9/6/83

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plans Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 24.108(3)

Electrostatic Precipitator

Compliance Assurance Monitoring Plan

Facility:	Muscatine Power and Water
EIQ Number:	92-3726
Emission Unit:	EU 90, Tangentially Fired Boiler
Emission Point:	EP 90, Boiler Stack
Control Equipment:	CE91 and CE92

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the exceedance to the department and conduct source testing within 90 days of the exceedance to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Compliance Assurance Monitoring (CAM) Plan for CE91 and CE92 Electrostatic Precipitator

I. Background

A. Emissions Unit:

Identification:	EP90/EU90
Description:	Unit 9 Dry Bottom Tangentially Fired Boiler

Facility: Muscatine Power & Water, 1700 Dick Drake Way, Muscatine, Iowa 52761

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Applicable regulation: 567 IAC 23.1(2)"z", Permit 80-A-191-P4
40 CFR 60 Subpart Da
EPA PSD permit 80-E-001 dated 1/24/80 and revision 80-E-001-S dated 9/6/83

Emission Limits: PM: 0.03 lb/MMBtu, PM_{10}: 46.68 lb/hr, $PM_{2.5}$: 43.59 lb/hr

C. Current Monitoring Requirements:

Stack Testing
Continuous Opacity Monitoring (COMS) ME90A
Audible Precipitator "Malfunction" Alarm

D. Current Technology: Electrostatic Precipitator

II. Monitoring Approach:

1. Indicator	Opacity of ESP exhaust	Audible Precipitator "Malfunction" Alarm
Measurement Approach	COMS in ESP exhaust	Meters continuously display voltage and amperage on each of the eight ESP control cabinets. The ESP "Automatic Control Panel" continuously monitors voltage and current and activates an alarm message to the FDG Control Room. Various systems monitor and display alarm conditions in the control room. Daily visual inspections of the ESP electromechanical operation are also conducted.
2. Indicator Range	A CAM excursion will be defined as **opacity exceeding 16% over any 1-hour averaging period.** Except during startup, shutdown, or cleaning of control equipment as per 567 IAC 24.1(1). Corrective action will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand,	A CAM excursion will be defined as **Failure of three T-R sets or more than 8 rappers per precipitator or the following T-R set operation "PPTR Fault'' alarms:** • T-R over temperature $>85^0$ C • T-R under voltage, which varies from <70 to <120 VAC on the transformer primary (or <18 to <30 KV on the transformer secondary)

	after it is determined that the opacity monitor is functioning properly.	• Primary voltage <350 or >500 VAC • Over current: ▪ TR-1 & TR-2 (750 MA) >225 amp @ 480 VAC ▪ TR-3 & TR-4 (1,000 MA) >250 amp @ 480 VAC ▪ TR-5 & TR-6 (1,200 MA) >275 amp @ 480 VAC ▪ TR-7 & TR-8 (1,500 MA) >300 amp @ 480 VAC Corrective action measures will be implemented on the occurrence of an above listed alarm. The appropriate measures for remediation will be implemented within eight hours plus the period of time until generating capacity is available to meet customer demand. Random T-R set failure and rapper failure (up to three T-R sets per two precipitators and 8 rappers per precipitator) will not significantly affect precipitator performance.
3. Performance Criteria A. Data Representativeness	COMS installed at an alternate representative location in the ESP exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1).	The precipitator fault alarm was selected as the performance indicator because it is indicative of operation of the ESP in a manner necessary to comply with the emission standard. Continuous monitoring of operating conditions such as voltage, amperage, rapper failure, high hopper levels, high opacity, and continuous emissions monitor failure provides additional assurance of proper electromechanical operation of the ESP.
B. Verification of Operational Status	Results of initial COMS performance evaluation conducted per PS-1 (July 1997).	Results of equipment verification tests conducted to calibrate the audible and visible alarm displays.
C. QA/QC Practices/Criteria	Installation and evaluation of the COMS per PS-1. The continuous opacity monitor is	All instruments and control equipment will be calibrated, maintained, and

	automatically calibrated for zero and span adjustments daily.	operated according to the manufacture's specifications.
D. Monitoring Frequency	Monitor the opacity of the ESP exhaust continuously (every 10 seconds).	An audible alarm will continuously (greater than four times per hour) monitor T-R set failure, rapper control malfunction T-R temperature, T-R voltage and T-R current levels.
E. Data Collection Procedures	Set up the data acquisition system (DAS) to retain all 6-minute average opacity data.	Maintain records of T-R and rapper failures and precipitator fault alarms exceeding CAM thresholds for longer than one hour.
F. Averaging period	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate hourly block average opacity for the CAM.	N/A

III. Quality Improvement Plan (QIP):

A Quality Improvement Plan (QIP) will be required to be submitted to the IDNR if an accumulation of excursions of either the opacity indicator or the various ESP operation alarms exceed 5 percent of the boiler's normal operating time for a 6-month reporting period. All requirements in 40 CFR 64.8(b) shall be fulfilled if a QIP is required.

IV. Quality Assurance and Quality Control:

In addition to monitoring the opacity and ESP operation alarms, MP&W will conduct the following activities to assure compliance. The following monitoring is not required during periods of time greater than one day in which the source does not operate.

A. Monitor detection equipment, including alarm displays in the control room, which alert operators to irregular operating conditions such as high hopper levels, high opacity, and continuous opacity monitoring system (COMS) failure.

B. Conduct daily inspections of the ESP electromechanical operation:
- Rapper operation
- Ash removal system operation
- ESP air leakage
- Arcing

C. Each Major Scheduled Unit Outage (typically lasting four or more weeks):
- Check and correct plate/electrode alignment

- Inspect condition of collection surfaces, insulators, electrical contacts, rappers, doors and seals.
- Evaluate and correct ash transport system wear areas
- Inspect internal structural components

Corrective action to correct abnormal operating conditions will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand.

D. Record Keeping and Recording:
   - Records of all daily inspections and any actions resulting from these inspections will be kept for five years.
   - Records of all planned unit outage inspections and any actions resulting from these inspections will be kept for five years.
   - MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken. 40 CFR 64.9(a)(2)(i).
   - MP&W shall record the summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). 40 CFR 64.9(a)(2)(ii).
   - All excursions and monitor downtime incidents will be reported in semi-annual monitoring reports and annual compliance certifications.

E. Quality Control:
   - All instruments and equipment will be calibrated, maintained, and operated according to the manufacturer's specifications.
   - An inventory of spare parts will be maintained. Parts will be re-ordered as they are used.

Authority for requirement: 567 IAC 24.108(3)

Emission Point ID Number: 912 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
912A	Reversing Conveyor A – Discharge/Load	Synthetic Gypsum	15 tons/hr	13-A-157-S1
912B	Reversing Conveyor B – Discharge/Load			

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40%
Authority for Requirement: DNR Construction Permit 13-A-157-S1
567IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limits: 0.00037 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-157-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. Reversing Conveyor A (EU912A) and Reversing Conveyor B (EU912B) are set up in parallel and are not designed to operate at the same time. Muscatine Power and Water has determined that the maximum amount of synthetic gypsum that can be discharged by the vacuum drum filters upstream of the reversing conveyors is 15 tons per hour (Maximum Process Design Capacity).
B. The owner or operator shall maintain records on the moisture content of the material handled in these emissions units.

C. The $PM_{2.5}$ emission rate established above is based on the maximum process design capacity of the emission units, two transfer points, and following equation and parameters:
$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
Where:
E = emission factor in lbs $PM_{2.5}$/ ton material
k = particle size multiplier, 0.053 for $PM_{2.5}$
U = mean wind speed, 3.75 miles per hour, provided by the applicant, includes a 50% reduction of wind speed due to location of emission units inside a building
M = minimum material moisture content, 10%, provided by applicant

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-157-S1

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 916 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
916A	Loadout Conveyor Discharge/Radial Stacker Conveyor Load	Synthetic Gypsum	15 tons/hr	13-A-159-S1
916B	Radial Stacker Conveyor Storage Pile		15 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40%
Authority for Requirement: DNR Construction Permit 13-A-159-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limits: 0.00091 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-159-S1

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The Loadout Conveyor (EU916A) and the Radial Stacker Conveyor (EU916B) transfer synthetic gypsum from Reversing Conveyor A (EU912A) or Reversing Conveyor B (EU912B) to an outside storage pile (EU919). Muscatine Power and Water has determined that the maximum amount of synthetic gypsum that can be discharged by the vacuum drum filters upstream of the reversing conveyors is 15 tons per hour (Maximum Process Design Capacity).
B. The owner or operator shall maintain records on the moisture content of the material

handled in these emissions units.

C. The $PM_{2.5}$ emission rate established above is based on the maximum process design capacity of the emission units, two transfer points, and following equation and parameters:
$E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
Where:
E = emission factor in lbs $PM_{2.5}$/ ton material
k = particle size multiplier, 0.053 for $PM_{2.5}$
U = mean wind speed, 7.5 miles per hour, provided by the applicant,
M = minimum material moisture content, 10%, provided by applicant

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-159-S1

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 919 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
919	Synthetic Gypsum Storage Pile Wind Erosion	Synthetic Gypsum	10,890 ft^2, pile size	13-A-146-S2
919A	Synthetic Gypsum Storage Pile Truck Loading and Traffic		50 tons/hr	
919B	Synthetic Gypsum Storage Pile Formation		N/A	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40%
Authority for Requirement: DNR Construction Permit 13-A-146-S2
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$) for Gypsum Truck Loading (EU919A)
Emission Limits: 0.00047 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-146-S2

Pollutant: Particulate Matter ($PM_{2.5}$) for Synthetic Gypsum Storage Pile: Pile Formation (EU919B)
Emission Limits: 0.024 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-146-S2

Pollutant: Particulate Matter ($PM_{2.5}$) for Synthetic Gypsum Storage Pile: Wind Erosion
Emission Limits: Expressed in the form of a work practice instead of an emission limit. See Operating Limits section of this permit for the work practice requirements.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-146-S2

Pollutant: Particulate Matter ($PM_{2.5}$) for Synthetic Gypsum Storage Pile: Truck traffic around pile
Emission Limits: Expressed in the form of a work practice instead of an emission limit. See Operating Limits section of this permit for the work practice requirements.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-146-S2

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The truck loading operations (EU919A) associated with the Synthetic Gypsum storage pile are limited to operating between 7:00 AM and 7:00 PM.
    i. The owner or operator shall maintain a daily record of when the Synthetic Gypsum truck loading was in operation. This record shall include the following information: the date of operation, the initial startup time of operation, and the final end time of the operation.
B. The pile forming operations associated with the Synthetic Gypsum storage pile (EU919B) are limited to operating between 7:00 AM and 7:00 PM.
    i. The owner or operator shall maintain a daily record of when the Synthetic Gypsum pile forming was in operation. This record shall include the following information: the date of operation, the initial startup time of operation, and the final end time of the operation.
C. The truck traffic associated with loading out from the Synthetic Gypsum storage pile (EU919A) is limited to operating between 7:00 AM and 7:00 PM.
    i. The owner or operator shall maintain a daily record of when the truck traffic associated with loading out of the Synthetic Gypsum pile forming was in operation. This record shall include the following information: the date of operation, the initial startup time of operation, and the final end time of the operation.
D. A maximum of nine trucks shall be loaded with synthetic gypsum per day.
    i. The owner or operator shall maintain a daily record on the number of trucks loaded out with synthetic gypsum.
E. The amount of synthetic gypsum loaded out shall not exceed 78,840 tons per rolling 12-month period.
    i. The owner or operator shall maintain the following monthly records:
        a) The amount of synthetic gypsum loaded out (tons); and
        b) The rolling 12-month total of the amount of synthetic gypsum loaded out (tons).

F. The ground surface area of the synthetic gypsum storage pile shall not exceed 0.25 acre (10,890 square feet).
    i. The owner or operator shall maintain records on the surface area of the synthetic gypsum storage pile.
G. The maximum silt loading content of any paved road used by trucks to haul away synthetic gypsum shall not exceed 13.5 g/m^2.
    i. For any paved road used by trucks to haul away synthetic gypsum, silt loading testing shall be done at least quarterly between April 1st through September 30th to assure that the silt loading does not exceed 13.5 g/m^2. The owner or operator shall maintain records on the date and the results of the silt loading test. After 2 years of silt loading tests, the owner or operator can request a re-evaluation of the testing frequency.
H. The owner or operator shall maintain records on the moisture content and the silt content of the synthetic gypsum handled in this emissions unit.
I. For the Synthetic Gypsum Truck Loading (EU919A), the $PM_{2.5}$ emissions rates established above are based on the maximum capacity of the unit and the following equation and parameters:

    $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

    Where:

    E = emission factor in lbs $PM_{2.5}$/ ton material

    k = particle size multiplier, 0.053 for $PM_{2.5}$

    U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

    M = average material moisture content, 23%, provided by applicant.
J. For the Synthetic Gypsum Storage Pile Wind Erosion (EU919), the $PM_{2.5}$ emissions rate used in air dispersion modeling is based on the maximum capacity of the unit and the following equation and parameters:

    E = (J) 1.7 (s/1.5) ((365-p)/235)) (f/15) (PS)(1 dy/24 hrs) (Control of Open Fugitive Dust Sources, Section 4.1.3, EPA-450/3-98-008, September 1988)

    Where:

    J = 0.075, fraction of total PM which is considered to be PM2.5 (0.053/0.74)

    s = material silt content, 98%, provided by the applicant;

    p = average number of days during the year with at least 0.01 inch of precipitation, 110;

    f = percentage of time that the unobstructed wind speed exceeds 12 mph at the mean pile height, 11.9%;

    PS = size of pile in acres, 0.25 acres (10,890 ft^2).
K. For the Synthetic Gypsum Storage Pile Formation (EU919B) and the truck traffic associated with the Synthetic Gypsum Storage Pile (EU919A), the $PM_{2.5}$ emission rates established above are based on the maximum capacity of the unit and the following equation and parameters:

    $E = [k\ (sL)^{0.91}\ (W)^{1.02}]$ (1-P/4N) (AP-42, Equation 2 from Section 13.2.1.3, 01/2011)

    Where:

    E = emission factor, lbs $PM_{2.5}$ per VMT

    k = particle size multiplier (0.00054 lb/VMT), AP 42 Table 13.2.1-1

sL = silt loading, 13.5 g/m^2 for truck traffic, 27 g/m^2 for pile formation, provided by the applicant
W = 31.5 tons, average weight of vehicles, provided by the applicant
P = 110, annual number of days of precipitation exceeding 0.01 inch
N = 365, number of days in the averaging period.

The maximum vehicle miles traveled (VMT) for pile formation is 0.84 VMT per day. The maximum vehicle miles traveled (VMT) for truck traffic is 1.84 VMT per day.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-146-S2

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 920

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
920	Fly Ash Silo Vent Filter Exhaust	CE922: Bin Vent Filter	Fly Ash	40 tons/hr	80-A-201-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 80-A-201-S1
567 IAC 23.3(2)"d"

(1)An exceedance of the indicator opacity of (10%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0058 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-201-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.071 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-201-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.02 gr/dscf
Authority for Requirement: DNR Construction Permit 80-A-201-S1

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. The owner or operator shall develop an operating and maintenance plan for the bin vent filter including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-201-S1

Reporting & Record Keeping:

A. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the bin vent filter.

Authority for Requirement: DNR Construction Permit 80-A-201-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 112.7
Stack Opening (inches): 49 x 64
Exhaust Temperature (^{o}F): 150
Exhaust Flowrate (scfm): 417
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 80-A-201-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 920A

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
CE920	Cyclone Separator Dust Collector DC-13B	CE921: Cartridge Fabric	Fly Ash	40 tons/hr	80-A-200-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 80-A-200-S1
567 IAC 23.3(2)"d"

(1)An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.122 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 80-A-200-S1

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.250 lb/hr
Authority for Requirement: DNR Construction Permit 80-A-200-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.02 gr/dscf
Authority for Requirement: DNR Construction Permit 80-A-200-S1

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. EP920A and EP920B are the two emission points for the fly ash vacuum blowers. Only one of the two emission points shall operate at the same time.

B. For the control equipment, the cartridge filter media shall be Dollinger's Fiberloc 063 or Fiberloc 195 filter media or a filter media with an equivalent high efficiency for particulate control.
C. The owner or operator shall develop an operating and maintenance plan for the cartridge filter including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 80-A-200-S1

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to monitor the differential pressure drop across the cartridge filter. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall monitor the pressure drop across the cartridge filter, in inches of water**,** continuously. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall follow its procedure of replacing the filter media when the differential pressure across the cartridge filter exceeds 30 inches water column. The cartridge filter shall be replaced before the differential pressure exceeds 35 inches water column. A record shall be maintained on when the cartridge filter is replaced.
D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the cartridge filter.

Authority for Requirement: DNR Construction Permit 80-A-200-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 13.83
Stack Opening (inches, dia.): 18
Exhaust Temperature (^{o}F): 190
Exhaust Flowrate (scfm): 2,920
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 80-A-200-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 920B

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
CE920	Cyclone Separator Dust Collector DC-13B	CE921: Cartridge Fabric	Fly Ash	40 tons/hr	13-A-147

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 13-A-147
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.122 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-147

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.250 lb/hr
Authority for Requirement: DNR Construction Permit 13-A-147

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.02 gr/dscf
Authority for Requirement: DNR Construction Permit 13-A-147

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. EP920A and EP920B are the two emission points for the fly ash vacuum blowers. Only one of the two emission points shall operate at the same time.

B. For the control equipment, the cartridge filter media shall be Dollinger's Fiberloc 063 or Fiberloc 195 filter media or a filter media with an equivalent high efficiency for particulate control.
C. The owner or operator shall develop an operating and maintenance plan for the cartridge filter including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: DNR Construction Permit 13-A-147

Reporting & Record Keeping:

A. The owner or operator shall properly operate and maintain equipment to periodically monitor the differential pressure drop across the cartridge filter. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
B. The owner or operator shall monitor the pressure drop across the cartridge filter, in inches of water, continuously. This requirement shall not apply on the days that the equipment is not in operation.
C. The owner or operator shall follow its procedure of replacing the filter media when the differential pressure across the cartridge filter exceeds 30 inches water column. The cartridge filter shall be replaced before the differential pressure exceeds 35 inches water column. A record shall be maintained on when the cartridge filter is replaced.
D. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the cartridge filter.

Authority for Requirement: DNR Construction Permit 13-A-147

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 13.83
Stack Opening (inches, dia.): 18
Exhaust Temperature (^{o}F): 190
Exhaust Flowrate (scfm): 2,920
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 13-A-147

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement – 567 IAC 24.108(3)

Emission Point ID Number: 924 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
924	Dry Fly Ash Truck	CE924: Enclosed Loading Spout	Fly Ash	80 tons/hr	13-A-148

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: DNR Construction Permit 13-A-148

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.032 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-148

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. Trucks shall be loaded by means of an enclosed loading spout.
B. The emissions unit is limited to operating between 7:00 AM and 4:00 PM.
C. The owner or operator shall develop an operating and maintenance plan for the enclosed loading spout including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-148

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when this emissions unit operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the enclosed loading spout.
C. The owner or operator shall maintain records on the moisture content of the material handled in this emissions unit.
D. For the Dry Fly Ash Truck Unloading (EU924), the PM2.5 emissions rate established in the Emission Limitations section of this permit is based on the maximum capacity of the unit and the following equation and parameters:
   E = (k) (0.0032) (U/5)1.3 / (M/2)1.4] (1 – 0.8) (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)
   Where:
   E = emission factor in lbs PM2.5/ ton material
   k = particle size multiplier, 0.053 for PM2.5
   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and
   M = minimum material moisture content, 0.5%, provided by applicant.
   0.8 = control efficiency credit given to enclosed loading spout

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-148

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 860 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
860	Ash/Slag Storage Pile - Wind Erosion	Ash/Slag	0.5 acres	13-A-143-S2
860B	Ash/Slag Storage Pile - Truck Loading		50 tons/hr	
860C	Ash/Slag Storage Pile - Truck Loading		50 tons/hr	
860D	Ash/Slag Storage Pile - Forming		50 tons/hr	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: DNR Construction Permit 13-A-143-S2

Pollutant: Particulate Matter ($PM_{2.5}$) for EU860B, EU860C and EU860D
Emission Limit(s): 0.0008 lb/hr (each)
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-143-S2

Pollutant: Particulate Matter ($PM_{2.5}$) for EU860
Emission Limit(s): For this emissions unit the limits are expressed in the form of a work practice instead of an emission limit. See the Operating Limits section of this permit for the work practice requirements.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-143-S2

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The Ash/Slag Truck Loading operations (EU860B) associated with the ash/slag storage pile are limited to operating between 7:00 AM and 5:00 PM.
   i. The owner or operator shall maintain a daily record of when the Ash/Slag Truck Loading was in operation. This record shall include the following information: the date of operation, the initial startup time of operation and the final end time of the operation.

B. The Ash/Slag Truck Unloading operations (EU860C) associated with the ash/slag storage pile are limited to operating between 7:00 AM and 5:00 PM.
   i. The owner or operator shall maintain a daily record of when the Ash/Slag Truck Unloading was in operation. This record shall include the following information: the date of operation, the initial startup time of operation and the final end time of the operation.

C. The Ash/Slag Storage Pile forming operation (EU860D) is limited to operating between 7:00 AM and 5:00 PM.
   i. The owner or operator shall maintain a daily record of when the Ash/Slag Truck Pile forming was in operation. This record shall include the following information: the date of operation, the initial startup time of operation and the final end time of the operation.

D. The size of the ash/slag pile is limited to 0.5 acre (21,780 square feet).
   i. The owner or operator shall maintain a record of the size of the ash/slag pile. The size of the pile shall be determined semi-annually and a report on the size of the pile shall be submitted to the Air Quality Bureau semi-annually. This report can be included with the facility's Title V Semi-Annual Monitoring Reports.

E. The owner or operator shall maintain records on the moisture content and the silt content of the material handled in this emissions unit.

F. For the Ash/Slag Truck Loading (EU860B) and Ash/Slag Truck Unloading (EU860C) and Ash/Slag Pile forming (EU860D), the $PM_{2.5}$ emissions rates established above are based on the maximum capacity of the unit and the following equation and parameters:

   $E = (k)\ (0.0032)\ (U/5)^{1.3} / (M/2)^{1.4}$ (AP-42, Equation 1 from Section 13.2.4.3, 11/2006)

   Where:

   E = emission factor in lbs $PM_{2.5}$/ ton material

   k = particle size multiplier, 0.053 for $PM_{2.5}$

   U = mean wind speed, 7.5 miles per hour, provided by the applicant; and

   M = average material moisture content, 16.1%, provided by applicant.

G. For the Ash/Slag Wind Erosion (EU860A), the $PM_{2.5}$ emissions rate used in air dispersion modeling is based on the maximum capacity of the unit and the following equation and parameters:

   E = (J) 1.7 (s/1.5) ((365-p)/235) (f/15) (PS)(1 dy/24 hrs) (Control of Open Fugitive Dust Sources, Section 4.1.3, EPA-450/3-98-008, September 1988)

Where:
E = $PM_{2.5}$ emission rate lbs/hr
J = 0.075, fraction of total PM which is considered to be $PM_{2.5}$ (0.053/0.74)
s = material silt content, 15.1%, provided by the applicant;
p = average number of days during the year with at least 0.01 inch of precipitation, 110;
f = percentage of time that the unobstructed wind speed exceeds 12 mph at the mean pile height, 11.9%;
PS = size of pile in acres, 0.5 acre (21,780 ft^2).

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-143-S2

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 927

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
927	Portable Diesel Tank	Diesel Fuel	300 Gallons	01-A-458

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 01-A-458
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of (25%) will required the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 01-A-458
567 IAC 23.3(2)"a"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 7890

Associated Equipment

Associated Emission Unit ID Numbers: 7890
Emission Unit Description: Portable Gasoline IC Engines for Non-emergency Power

Emission Unit	Manufacturer/Model	Rated Capacity (HP)	Raw Material/Fuel	Construction Date
1	Onan 848M-GA018	18	Unleaded Gasoline	Prior to 07/01/08
2	Honda EB 4000	10		Prior to 07/01/08
3	Stihl TS400	1		Prior to 07/01/08
4	Stihl TS410	1		Prior to 07/01/08
5	Honda GX 160	5.5		Prior to 07/01/08
6	Honda GX 160	5.5		Prior to 07/01/08
7	Honda GX 160	5.5		After 07/01/08
8	Honda GX 160	5.5		After 07/01/08
9	Honda GX 160	5.5		After 07/01/08
10	Honda PT2A	4.8		After 07/01/08
11	Honda PT2A	4.8		After 07/01/08
12	Honda GX340	11		Prior to 07/01/08

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% [(1)]
Authority for Requirement: DNR Construction Permit 13-A-150
567 IAC 23.3(2)"d"

[(1)]An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.0604 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-150

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: DNR Construction Permit 13-A-150
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppm_v
Authority for Requirement: DNR Construction Permit 13-A-150
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. Each of the engines covered by this permit is limited to operating sixteen hours per day from 6 AM to 10 PM.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-150

Reporting & Record Keeping:

A. The owner or operator shall maintain a daily record of when the engines operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.

Authority for Requirement: DNR Construction Permit 13-A-150

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): Varies
Stack Opening inches, dia.): Varies
Exhaust Temperature (^oF): 800
Exhaust Flowrate (scfm): Varies
Discharge Style: Varies
Authority for Requirement: DNR Construction Permit 13-A-150

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 7892

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
7892	Portable Diesel IC Engine	Diesel Fuel	105 HP	13-A-151

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% [(1)]
Authority for Requirement: DNR Construction Permit 13-A-151
567 IAC 23.3(2)"d"

[(1)]An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.187 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-151

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 13-A-151
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 13-A-151
567 IAC 23.3(3)"b"(2)

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:

A. This engine is limited to burning #1 or #2 diesel fuel oil only.
B. This engine is limited to operating sixteen hours per day from 6 AM to 10 PM.

C. The maximum sulfur content of the fuel oil burned in this engine shall not exceed 0.5% by weight.

Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-151

Reporting & Record keeping:

A. The owner or operator shall maintain a daily record of when the engines operated. This record shall include the following information: date of operation, initial startup time of operation and final end time of operation.
B. The owner or operator shall perform an analysis and shall maintain records on the sulfur content of each shipment of oil received. Alternatively, the owner or operator shall have the oil supplier provide analyses on the sulfur content of the oil received. The analysis does not have to be for each shipment of oil received, but shall be documented by receipts from the fuel supplier, a statement from the fuel supplier on the specification of the sulfur content of the purchased oil, or other supporting documentation.

Authority for Requirement: DNR Construction Permit 13-A-151

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 6.8
Stack Opening (inches, dia.): 3
Exhaust Temperature (^{o}F): 800
Exhaust Flowrate (scfm): 420
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 13-A-151

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within 30 days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: 50, 820, and 930

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Date
50	50	Emergency Generator	Diesel	227 HP	July 1980
820	820	Unit 8 Fire Protection System Diesel Engine		182 HP	February 2001
930	930	Unit 9 Fire Protection System Diesel Engine		182 HP	February 2003

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(3)"b"(2)

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

Operating Limits:
A. No person shall allow, cause or permit the combustion of number 1 or number 2 fuel oil exceeding a sulfur content of 0.5 percent by weight.
Authority for Requirement: 567 IAC 23.3(3)"b"(1)

Reporting & Record keeping:
1. The facility shall monitor the percent of sulfur by weight in the fuel oil as delivered. The documentation may be vendor supplied or facility generated.
Authority for Requirement: 567 IAC 24.108(3)

NSPS and NESHAP Requirements:
These emergency engines are subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE). According to 40 CFR 63.6590(a)(1)(ii) this compression ignition emergency engine, located at a major source, is an existing stationary RICE as it was constructed prior to June 12, 2006.

Compliance Date
Per 63.6595(a)(1) you must comply with the provisions of Subpart ZZZZ that are applicable by May 3, 2013.

Fuel Requirements
No requirements except (beginning January 1, 2015) if you own or operate an existing emergency compression ignition stationary engine with a site rating of more than 100 bhp and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Those requirements include a maximum sulfur content of 15 ppm (0.0015%) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. 40 CFR 63.6604(b)

Operation and Maintenance Requirements 40 CFR 63.6602, 63.6625, 63.6640 and Tables 2c and 6 to Subpart ZZZZ

1. Change oil and filter every 500 hours of operation or within 1 year + 30 days, whichever comes first. (See 63.6625(i) for the oil analysis option to extend time frame of requirements.)
2. Inspect air cleaner every 1000 hours of operation or within 1 year + 30 days, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or within 1 year + 30 days, whichever comes first, and replace as necessary.
4. Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
5. Install a non-resettable hour meter if one is not already installed.
6. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

Operating Limits 40 CFR 63.6640(f)

1. Any operation other than emergency operation, maintenance and testing, emergency demand response and operation in non-emergency situations (*up to*) 50 hours per year is prohibited.
2. There is no time limit on the use of emergency stationary RICE in emergency situations.

3. You may operate your emergency stationary RICE up to 100 combined hours per calendar year for maintenance checks and readiness testing, emergency demand response and periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. See 40 CFR 63.6640(f)(2) for additional information and restrictions.
4. You may operate your emergency stationary RICE up to 50 hours per calendar year for non-emergency situations, but those 50 hours are counted toward the 100 hours of maintenance and testing and emergency demand response. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

Recordkeeping Requirements 40 CFR 63.6655

1. Keep records of the maintenance conducted on the stationary RICE.
2. Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. See 40 CFR 63.6655(f) for additional information.

Notification and Reporting Requirements 40 CFR 63.6645, 63.6650 and Table 2c to Subpart ZZZZ

1. An initial notification is not required per 40 CFR 63.6645(a)(5).
2. A report may be required for failure to perform the work practice requirements on the schedule required in Table 2c. (See Footnote 1 of Table 2c for more information.)
3. If you own or operate an emergency stationary RICE with a site rating of more than 100 bhp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must submit an annual report. See 40 CFR 63.6650(h) for additional information.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
567 IAC 24.108(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: V168

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
V168	Portable Cummins Diesel IC engine, model QSX15-G9, used for emergency power, with closed crankcase ventilation	Diesel Fuel	755 bhp	11-A-562-S2

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% (1)
Authority for Requirement: DNR Construction Permit 11-A-562-S2
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of 20% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.29 lb/hr
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 11-A-562-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.90 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-562-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.90 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 11-A-562-S2
567 IAC 23.3(2)""a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.01 lb/hr, 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 11-A-562-S2
567 IAC 23.3(3)"b"(2)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 9.10 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-562-S2

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 3.20 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-562-S2

Operational Limits & Reporting/Record keeping Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. This engine (EUV168) shall combust only #1 or #2 diesel fuel oil. Prior to burning any other fuels, the owner or operator shall submit an application to the Iowa DNR - Air Quality Bureau and obtain a modification to this permit.
B. The sulfur content of the oil burned in the engine (EUV168) shall not exceed 15 parts per million (0.0015%) by weight. This limit applies at all times, including periods of startup, shutdown and malfunctions.
   i. The owner or operator shall have the oil supplier provide analyses on the sulfur content of the oil received. The analysis does not have to be for each shipment of oil received, but shall be documented by receipts from the fuel supplier, a statement from the fuel supplier on the specification of the sulfur content of the purchased oil, or other supporting documentation.
   Alternatively, the owner or operator shall perform an analysis and shall maintain records on the sulfur content of each shipment of oil received.
C. This engine (EUV168) is limited to operating a maximum of 465 hours in any rolling 12-month period.
   i. The owner or operator shall maintain the following monthly records:
      a) the number of hours that the engine operated; and
      b) the rolling 12-month total of the number of hours that the engine operated.
D. This engine (EUV168) may only be operated at the following locations:

Muscatine Power and Water Main Property (Power Plant):
Well #15
Well #41
Well #42

Progress Park Location:

Well #25	Well #39
Well #26	Well #40

Grandview Location:

Well #28	Well #34
Well #29	Well #35
Well #30	Well #36
Well #31	Well #37
Well #32	Well #38
Well #33	Well #43

West Hill Pumping Station, 120 Kindler Avenue, Muscatine
This engine may also be operated for maintenance checks and readiness testing in the general area it is normally stored.

E. Since the operation of this engine (EUV168) has been evaluated at the locations identified above, the relocation notification required in Construction Permit Condition 12 for portable equipment is not required when this unit is moved to any of these locations.
F. Prior to relocating the engine (EUV168) to any location in Muscatine County that is not listed in Condition D., the owner or operator shall apply to modify this construction permit.
G. Prior to relocating the engine (EUV168) to any location in Iowa outside of Muscatine County, the owner or operator shall notify the Department in writing prior to relocating this portable engine in accordance with 567 IAC 22.3(3)"f".
H. The owner or operator shall keep the following records whenever the engine (EUV168) is operated:
   i. The date and time of the operation.
   ii. The duration of the engine's operation.
   iii. The reason for the operation (e.g. emergency use, readiness testing, maintenance, etc.)
   iv. The location of the engine.
   v. The length of time that the engine operated at each location.
I. The owner or operator must operate and maintain the engine (EUV168) according to the manufacturer's emission-related written instructions. Alternatively, the facility must develop its own maintenance plan for the engine, which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution practice for minimizing emissions.

Authority for Requirement: DNR Construction Permit 11-A-562-S2

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 13.5
Stack Opening (inches, dia.): 6
Exhaust Temperature (^{o}F): 805
Exhaust Flowrate (scfm): 1050
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 11-A-562-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: 9999

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
9999	Facility Haul Roads	N/A	N/A	13-A-160-S6

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): For this emissions unit the limits are expressed in the form of a work practice instead of an emission limit. See the Operating Limits section below for the work practice requirements.
Authority for Requirement: Muscatine PM2.5 SIP (79 FR 71025, December 1, 2014; as amended by 80 FR 18133, April 3, 2015)
DNR Construction Permit 13-A-160-S6

Pollutant: Fugitive Dust
Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.
Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. The following road segments are covered by this permit:

Road #	Segment ID	Length & type of surface	Used by trucks hauling:	Physical Description
1	A – D	1608 feet, Paved	Gypsum Limestone Flyash Activated Carbon	**Road:** Unit 8 access road **From:** Intersection of Unit 8 access road with Unit 9 access road (near Guard House) **To:** Intersection of Unit 8 access road with Gypsum haul road (near fuel dispensing pumps)

Road #	Segment ID	Length & type of surface	Used by trucks hauling:	Physical Description
2	D – I	207 feet, Paved	Gypsum Limestone Flyash	**Road:** Gypsum haul road **From:** Intersection of Unit 8 access road with Gypsum haul road **To:** Intersection of Gypsum haul road with A-Conveyor access road (near A-Conveyor track hopper) **Exclusion:** EU919A, "Synthetic Gypsum Road – Paved" is covered in the Construction Permit for EP919
3	I – F	290 feet, Paved	Gypsum Flyash	**Road:** Gypsum haul road **From:** Intersection of Gypsum haul road with A-Conveyor access road **To:** Unit 9 Flyash silo **Exclusion:** EU919A, "Synthetic Gypsum Road – Paved" is covered in the Construction Permit for EP919
4	I – E	236 feet, Paved	Limestone	**Road:** A-Conveyor access road **From:** Intersection of Gypsum haul road with A-Conveyor access road **To:** Intersection of A-Conveyor access road with Limestone pile access road (near Transfer House) **Note:** EU45B "Limestone haul roads – Unpaved" and EU45B "Limestone haul roads – Paved" are now included in this permit
5	E – H	263 feet, Unpaved	Limestone	**Road:** Limestone pile access road **From:** Intersection of A-Conveyor access road with Limestone pile access road **To:** Limestone pile (limestone load hopper)
6	A – M	1463 feet, Paved	Ash/Slag Activated Carbon	**Road:** Unit 9 access road **From:** Intersection of Unit 8 access road with Unit 9 access road (near Guard House) **To:** Intersection of Unit 9 access road with Flue Gas Desulfurization access road (near substations)
7	M – G	94 feet, Paved	Ash/Slag	**Road:** Material Handling access road **From:** Intersection of Unit 9 access road with Flue Gas Desulfurization access road **To:** Intersection of Unit 9 access road with Material Handling access road (near Material Handling Maintenance Building)

Road #	Segment ID	Length & type of surface	Used by trucks hauling:	Physical Description
8	G – J	152 feet, Unpaved	Ash/Slag	**Road:** Material Handling access road, continued **From:** Intersection of Unit 9 access road with the Material Handling access road **To:** Intersection of Material Handling Maintenance Building access road with Ash/Slag Pile road (near Unit 9 substation access)
9	J – U	763 feet, Unpaved	Ash/Slag	**Road:** Ash/Slag Pile road **From:** Intersection of Material Handling Maintenance Building access road with Ash/Slag Pile road **To:** Ash/Slag storage pile
10	J – Ua	983 feet, Unpaved	Ash/Slag	**Road:** Ash/Slag Pile road – alternative **From:** Intersection of Material Handling Maintenance Building access road with Ash/Slag Pile road **To:** Ash/Slag storage pile
11	M - N	604 feet, Paved	Activated Carbon	**Road:** Flue Gas Desulfurization (FGD) access road **From:** Intersection of Unit 9 access road with FGD access road **To:** Unit 9 ESP

B. Operating limits for this emissions unit shall be:

Segment ID	Maximum Number of Trucks per Year						Control Measures Required	Operating limit Road use limited between:
	Gypsum	Limestone	Ash/Slag	Flyash	ACI[(1)] Unit 8	ACI[(1)] Unit 9		
A – D	3287	2900	0	2555	12	0	None	7:00 AM to 7:00 PM for gypsum, flyash, ACI trucks; 6:00 AM to 5:00 PM for limestone trucks
D – I	3287	2900	0	2555	0	0	None	
I – F	3287	0	0	2555	0	0	None	7:00 AM to 7:00 PM for gypsum, flyash trucks
I – E	0	2900	0	0	0	0	None	

Segment ID	Maximum Number of Trucks per Year						Control Measures Required	Operating limit Road use limited between:
E – H	0	2900	0	0	0	0	None	6:00 AM to 5:00 PM for limestone trucks
A – M	0	0	7665	0	0	24	None	7:00 AM to 5:00 PM for ash/slag, ACI trucks
M – G	0	0	7665	0	0	0	None	7:00 AM to 5:00 PM for ash/slag trucks
G – J	0	0	7665	0	0	0	None	
J – U	0	0	7665[(2)]	0	0	0	None	
J – Ua	0	0		0	0	0	None	
M – N	0	0	0	0	0	24	None	7:00 AM to 7:00 PM for ACI trucks

[(1)]Activated Carbon for Injection
[(2)]The total number of ash/slag trucks for Road Segments J – U and J – Ua combined.

C. The maximum silt loading content of the paved road segments listed in Condition A. above shall not exceed 13.5 g/m^2. Unless as required by Condition 5.D., silt loading testing shall be done on paved road segments A – D, D – I, I – F, I – E, A – M, and M – G at least annually between June 1st through September 30th of each year to assure that the silt loading content does not exceed 13.5 g/m^2.

D. If the total truck traffic on road segments A – D, D – I, I – F, I – E, A – M, and M – G in a calendar year exceeds 50% of the road segment's operating limit from Condition B. above, silt loading testing in the next calendar year shall be done on the road segment or road segments at least quarterly between April 1st through September 30th to assure that the silt loading content does not exceed 13.5 g/m^2.

Paved Road Segment ID	Annual truck operating limit	Trucks per year – 50% of operating limit
A – D	8754	4380
D – I	8742	4370
I – F	5842	2920
I – E	2900	1450
A – M	7689	3845
M – G	7665	3835

E. Trucks shall not be allowed to use both Road Segment J – U and Road Segment J – Ua on the same calendar day. Compliance with this restriction shall be documented by the recordkeeping in Condition F.

F. The owner or operator shall maintain a daily record on the operation of the Haul Roads (EU9999). This record shall show the following information:
   (1) The Road Segment ID;

(2) The date of operation;
(3) The number of each type of truck that has used the road segment (i.e. gypsum, limestone, ash/slag, flyash, or ACI). This shall be the number of round trips made by each type of truck;
(4) The initial startup time in the day for each type of truck use; and
(5) The final end time in the day for each type of truck use.

G. The owner or operator shall maintain the following monthly records on the operation of the Haul Roads (EU9999):
(1) The Road Segment ID;
(2) The total number of each type of truck that has used each road segment; and
(3) The rolling 12-month total of the number of each type of truck that has used each road segment.
This record shall be prepared by no later than thirty days after the end of the month.

H. The owner or operator shall maintain the following annual records on the paved road segments A – D, D – I, I – F, I – E, A – M, and M – G:
(1) The Road Segment ID; and
(2) The total number of all types of trucks that have used each road segment in the calendar year;
This record shall be prepared by no later than January 31st of each year for the previous calendar year.

I. The owner or operator shall maintain records on paved road segments A – D, D – I, I – F, I – E, A – M, and M – G. These records shall show the following information:
(1) The Road Segment ID; and
(2) The dates of the silt loading testing and the results of the test.
For each silt loading test, the test shall consist of taking samples from each of the six identified road segments. The results of the sampling from road segments A – M and M – G can be average together. The results of the sampling from the other road segments shall not be averaged with the results from the other road segments.

Authority for Requirement: DNR Construction Permit 13-A-160-S6

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: Levee

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
Levee	Mississippi River Levee	Public Access	NA	13-A-161

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits for this emission unit.

Operational Limits & Reporting/Record keeping Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

A. There are no operating limits associated with the river levee.
Authority for Requirement: DNR Construction Permit 13-A-161

Reporting & Record keeping:

A. Control measures include restricting public access to the levee that is located between Muscatine Power and Water's (MPW) property and the Mississippi River. MPW shall restrict public access to the levee by posting signs warning of restricted access to the north and south fence lines that intersect the levee. A third sign will be posted in the area of highest modeled concentrations prohibiting loitering and fishing. In-person surveillance of the levee shall be conducted by MPW staff periodically throughout the day with documentation as to surveillance times and locations.
   The restriction does not apply to MPW employees, employees, owner or lessees of contiguous properties, federal, state or local officials, emergency and maintenance service personnel (both private and public section), who have a legitimate reason or need for accessing the levee.

Authority for Requirement: DNR Construction Permit 13-A-161

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒
Authority for Requirement: 567 IAC 24.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code (IAC). When 567 IAC as amended May 15, 2024, and cited in this permit becomes State Implementation Plan (SIP) approved, it will supersede 567 IAC as amended February 8, 2023. Prior to May 15, 2024, all Title V rule citations in this Title V permit were found and cited in 567 IAC Chapter 22. During the period from May 15, 2024, to the date that 567 IAC as amended May 15, 2024, is approved into the SIP, both 567 IAC as amended May 15, 2024, and 567 IAC as amended February 8, 2023 form the legal basis for the applicable requirements included in this permit. A crosswalk showing the citation changes is attached to this permit in Appendix D.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 24.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 24.105(2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 24.108(1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 24.108(14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 24.108(9)"b"*
6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 24.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—24.104(455B), permit expiration terminates a source’s right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—24.105(455B). *567 IAC 24.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 24.105(2). *567 IAC 24.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable

inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 24.107(4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 24.108(15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 24.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 24.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 24.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The emissions inventory shall be submitted annually by March 31 with forms specified by the department documenting actual emissions for the previous calendar year.
4. The fee shall be submitted annually by July 1 with forms specified by the department.
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 24.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges
Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:
1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 24.108 (15)"b"*

G8. Duty to Provide Information
The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 24.108 (9)"e"*

G9. General Maintenance and Repair Duties
The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 21.8(1)*

G10. Recordkeeping Requirements for Compliance Monitoring
1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 24.108(4), 567 IAC 24.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 24;

b. Compliance test methods specified in 567 Chapter 21; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 24.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 725-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a

violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 21.10(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 21.10(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required initial reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.
vi. The steps that were taken to limit the excess emission.
vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 21.7(1)-567 IAC 21.7(4)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 24.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 24.
b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
d. The changes are not subject to any requirement under Title IV of the Act (revisions affecting Title IV permitting are addressed in rules 567—24.140(455B) through 567 - 24.144(455B));.
e. The changes comply with all applicable requirements.
f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,
ii. The date on which the change will occur,
iii. Any change in emission as a result of that change,
iv. The pollutants emitted subject to the emissions trade
v. If the emissions trading provisions of the state implementation plan are

invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 24.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 24.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 24.110(1). *567 IAC 24.110(3)*

4. The permit shield provided in subrule 24.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 24.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 24.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that does any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Title V Permit Modification.

a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:

i. Do not violate any applicable requirement;
ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;
iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;
iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;
v. Are not modifications under any provision of Title I of the Act; and
vi. Are not required to be processed as significant modification under rule 567 - 24.113(455B).

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:
i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
ii. The permittee's suggested draft permit;
iii. Certification by a responsible official, pursuant to 567 IAC 24.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 24.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 24.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 24, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V

permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 24.111-567 IAC 24.113*

G19. Duty to Obtain Construction Permits

Unless exempted in 567 IAC 22.1(2) or to meet the parameters established in 567 IAC 22.1(1)"c", the permittee shall not construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, or conditional permit, or permit pursuant to rule 567 IAC 22.8, or permits required pursuant to rules 567 IAC 22.4, 567 IAC 22.5, 567 IAC 31.3, and 567 IAC 33.3 as required in 567 IAC 22.1(1). A permit shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source or anaerobic lagoon. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations (*567 IAC 23.1(3)"a");* training fires and controlled burning of a demolished building *(567 IAC 23.2).*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as provided in 567 IAC 23.2. *567 IAC 23.2 <u>except</u> 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedances of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 24.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

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 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 reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in 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,

5. The permittee shall be allowed to switch from any ozone-depleting or greenhouse gas generating substances 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. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 24.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 24.108(17)"a", 567 IAC 24.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;
b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 24.114*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 24.114*

5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 24.114*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or
b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:
a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 24.108 (18)*

G26. Severability
The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 24.108 (8)*

G27. Property Rights
The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 24.108 (9)"d"*

G28. Transferability
This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of 567 IAC 24.111(1). *567 IAC 24.111 (1)"d"*

G29. Disclaimer
No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification
The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department’s request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks (42 days) of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 343-6589

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.
567 IAC 21.10(7)"a", 567 IAC 21.10(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.
567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Iowa Compliance Officer
Air Branch
Enforcement and Compliance Assurance Division
U.S. EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 313-8325

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
1101 Commercial Court, Suite 10
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health
Air Quality Branch
1020 6th Street SE

V. Appendices

Appendix A. Links to Standards

A. 40 CFR Part 60 Subpart A- *General Provisions*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-A

B. 40 CFR Part 60 Subpart Da- Standards of Performance for *Electric Utility Steam Generating Units* for which Construction is Commenced after September 18, 1978
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-Da

C. 40 CFR Part 60 Subpart Y - Standards of Performance for *Coal Preparation Plants*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-Y

D. 40 CFR Part 60 Subpart KKKK - Standards of Performance for *Stationary Combustion Turbines*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-KKKK

E. 40 CFR 63 Subpart A – *General Provisions*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-A

F. 40 CFR 63 Subpart YYYY – National Emission Standard for Hazardous Air Pollutants for *Stationary Combustion Turbines*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-YYYY

G. 40 CFR 63 Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-ZZZZ

H. 40 CFR 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for *Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-DDDDD

I. 40 CFR 63 Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants from *Coal and Oil-fired Electric Utility Steam Generating Units (EGU-MATS)*
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-UUUUU

Appendix B. Acid Rain Phase II Permit

Department of Natural Resources

AIR QUALITY BUREAU
6200 Park Ave Ste 200
Des Moines, IA 50321

Draft Phase II Acid Rain Permit

Issued to: Muscatine
Operated by: Muscatine Power and Water
ORIS code: 1167
Effective: **DATE** to **DATE**

For the Director of the Department of Natural Resources

Corey McCoid, Supervisor of Operating Permits Section Date

Acid Rain Permit comprises the following:

1) Statement of Basis.

2) SO_2 allowances allocated under this permit and NO_x requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

4) The permit application submitted for this source, as corrected by the Iowa Department of Natural Resources (IDNR), Air Quality Bureau, Operating Permit Section. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application.

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with Iowa Code paragraph 455B.133[8"a"], and Titles IV and V of the Clean Air Act, the Iowa Department of Natural Resources (IDNR), Air Quality Bureau, Operating Permit Section issues this permit pursuant to 567 Iowa Administrative Code (IAC) 24.135(455B) to 24.145(455B) and 567 IAC 24.100(455B) to 24.116(455B). The compliance options are approved as proposed in the attached application.

2) SO_2 Allowance Allocations and NO_x Requirements for each affected unit

		2026	2027	2028	2029	2030	2031
Unit 8	SO_2 allowances, under Table 2 of 40 CFR part 73.	1364*	1364*	1364*	1364*	1364*	1364*

		2026	2027	2028	2029	2030	2031
Unit 9	SO_2 allowances, under Table 2 of 40 CFR part 73.	2030*	2030*	2030*	2030*	2030*	2030*
	NO_x limit	Pursuant to 40 CFR part 76, The Iowa Department of Natural Resources approves a standard emission limitation compliance plan for Unit 9. The NO_x compliance plan is effective beginning **DATE** through **DATE**. Under the NO_x compliance plan, this unit's annual average NO_x emission rate for each year, determined in accordance with 40 CFR part 75, shall not exceed the applicable emission limitation under 40 CFR 76.7(a)(1), which is 0.40 lbs/mmBtu for tangentially fired units. In addition to the described NO_x compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to reapply for a NO_x compliance plan and the requirements covering excess emissions.					

		2026**	2027	2028	2029	2030	2031
Unit 10	SO_2 allowances, under Table 2 of 40 CFR part 73.	0*	0*	0*	0*	0*	0*

* The number of allowances allocated to Phase II affected units by U.S. EPA in 40 CFR part 73 Table 2 (Revised May 12, 2005). In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).
**Not constructed, not in operation.

3) Comments, Notes and Justifications:

Renewal of the Phase II SO_2 and NO_x permit.

4) Permit Application: Attached.

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 12/31/2021

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ☐ **new** ☐ **revised** ☒ **for ARP permit renewal**

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Muscatine Power and Water Facility (Source) Name	IA State	1167 Plant Code

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
8	Yes
9	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3

Read the standard requirements.

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall:
  (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
  (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:
  (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
  (ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:
  (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
  (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
  (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3, Cont'd.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
   (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
   (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
   (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
   (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
   (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
   (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3, Cont'd.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; provided, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

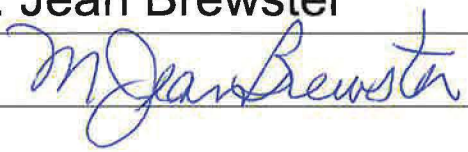
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4

Certification

Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. Jean Brewster	
Signature 	Date 7/31/2025

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 12/31/2021

Acid Rain NO_x Compliance Plan

For more information, see instructions and refer to 40 CFR 76.9
This submission is: ☐ New ☐ Revised

STEP 1
Indicate plant name, State, and Plant code from the current Certificate of Representation covering the facility.

Plant Name	State	Plant Code
Muscatine Power and Water	IA	1167

STEP 2

Identify each affected Group 1 and Group 2 boiler using the unit IDs from the current Certificate of Representation covering the facility. Also indicate the boiler type: "CB" for cell burner, "CY" for cyclone, "DBW" for dry bottom wall-fired, "T" for tangentially fired, "V" for vertically fired, and "WB" for wet bottom, and select the compliance option for each unit by making an 'X' in the appropriate row and column.

	ID# 9 Type	ID# Type	ID# Type	ID# Type	ID# Type	ID# Type
(a) Standard annual average emission limitation of 0.50 lb/mmBtu (for Phase I dry bottom wall-fired boilers)						
(b) Standard annual average emission limitation of 0.45 lb/mmBtu (for Phase I tangentially fired boilers)						
(c) Standard annual average emission limitation of 0.46 lb/mmBtu (for Phase II dry bottom wall-fired boilers)						
(d) Standard annual average emission limitation of 0.40 lb/mmBtu (for Phase II tangentially fired boilers)	X					
(e) Standard annual average emission limitation of 0.68 lb/mmBtu (for cell burner boilers)						
(f) Standard annual average emission limitation of 0.86 lb/mmBtu (for cyclone boilers)						
(g) Standard annual average emission limitation of 0.80 lb/mmBtu (for vertically fired boilers)						
(h) Standard annual average emission limitation of 0.84 lb/mmBtu (for wet bottom boilers)						
(i) NO_x Averaging Plan (include NO_x Averaging form)						
(j) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(A) (check the standard emission limitation box above for most stringent limitation applicable to any unit utilizing stack)						
(k) Common stack pursuant to 40 CFR 75.17(a)(2)(i)(B) with NO_x Averaging (check the NO_x Averaging Plan box and include NO_x Averaging form)						
(l) EPA-approved common stack apportionment method pursuant to 40 CFR 75.17(a)(2)(i)(C), (a)(2)(iii)(B), or (b)(2)						

Muscatine Power and Water
Plant Name (from Step 1)

STEP 3
Identify the first calendar year in which this plan will apply.

January 1, 2026

STEP 4
Read the special provisions and certification, enter the name of the designated representative, sign and date.

Special Provisions

General.

This source is subject to the standard requirements in 40 CFR 72.9. These requirements are listed in this source's Acid Rain Permit.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. Jean Brewster	
Signature M Jean Brewster	Date 7/31/25

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258
Approval expires 12/31/2021

Acid Rain Permit Application

For more information, see instructions and 40 CFR 72.30 and 72.31.

This submission is: ☑ **new** ☐ **revised** ☐ **for ARP permit renewal**

STEP 1

Identify the facility name, State, and plant (ORIS) code.

Muscatine Power and Water	IA	1167
Facility (Source) Name	State	Plant Code

STEP 2

Enter the unit ID# for every affected unit at the affected source in column "a."

a	b
Unit ID#	Unit Will Hold Allowances in Accordance with 40 CFR 72.9(c)(1)
10	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes
	Yes

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3

Read the standard requirements.

Permit Requirements

(1) The designated representative of each affected source and each affected unit at the source shall:
  (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
  (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:
  (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
  (ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:
  (i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and
  (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  (i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
  (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3, Cont'd.

Excess Emissions Requirements

(1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
(2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
   (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
   (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
   (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
   (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
   (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
   (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
(4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
(5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
(6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
(7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Muscatine Power and Water
Facility (Source) Name (from STEP 1)

STEP 3, Cont'd.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; provided, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

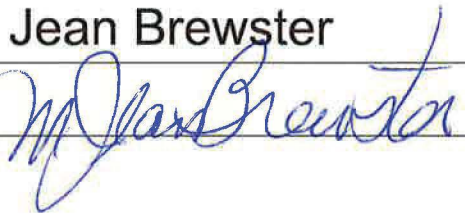
(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4

Certification

Read the certification statement, sign, and date.

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name M. Jean Brewster	
Signature 	Date 3/24/2026

Appendix C. Cross-State Air Pollution Rule (CSAPR) Permit

Transport Rule (TR) Trading Program Title V Requirements

Description of TR Monitoring Provisions

The TR subject unit(s), and the unit-specific monitoring provisions at this source, are identified in the following table(s). These unit(s) are subject to the requirements for the TR NO_X Annual Trading Program, TR NO_X Ozone Season Group 2 Trading Program and TR SO_2 Group 1 Trading Program.

Unit ID: 8 (ORIS Code: 1167) Muscatine Power and Water					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO_2 monitoring) and 40 CFR part 75, subpart H (for NO_X monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO_2	X		----------		
NO_X	X	----------			
Heat input	X		----------		

Unit ID: 9 (ORIS Code: 1167) Muscatine Power and Water					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO_2 monitoring) and 40 CFR part 75, subpart H (for NO_X monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO_2	X		----------		
NO_X	X	----------			
Heat input	X		----------		

Unit ID: 10 (ORIS Code: 1167) Muscatine Power and Water					
Parameter	Continuous emission monitoring system or systems (CEMS) requirements pursuant to 40 CFR part 75, subpart B (for SO_2 monitoring) and 40 CFR part 75, subpart H (for NO_X monitoring)	Excepted monitoring system requirements for gas- and oil-fired units pursuant to 40 CFR part 75, appendix D	Excepted monitoring system requirements for gas- and oil-fired peaking units pursuant to 40 CFR part 75, appendix E	Low Mass Emissions excepted monitoring (LME) requirements for gas- and oil-fired units pursuant to 40 CFR 75.19	EPA-approved alternative monitoring system requirements pursuant to 40 CFR part 75, subpart E
SO_2		X	----------		
NO_X	X	----------			
Heat input		X	----------		

1. The above description of the monitoring used by a unit does not change, create an exemption from, or otherwise affect the monitoring, recordkeeping, and reporting requirements applicable to the unit under 40 CFR 97.430 through 97.435 (TR NO_X Annual Trading Program), 97.530 through 97.535 (TR NO_X Ozone Season Group 2 Trading Program), and 97.630 through 97.635 (TR SO_2 Group 1 Trading Program). The monitoring, recordkeeping and reporting requirements applicable to each unit are included below in the standard conditions for the applicable TR trading programs.

2. Owners and operators must submit to the Administrator a monitoring plan for each unit in accordance with 40 CFR 75.53, 75.62 and 75.73, as applicable. The monitoring plan for each unit is available at the EPA's website at https://www.epa.gov/airmarkets/monitoring-plans-part-75-sources#monMethod.

3. Owners and operators that want to use an alternative monitoring system must submit to the Administrator a petition requesting approval of the alternative monitoring system in accordance with 40 CFR part 75, subpart E and 40 CFR 75.66 and 97.435 (TR NO_X Annual Trading Program), 97.535 (TR NO_X Ozone Season Group 2 Trading Program) and/or 97.635 (TR SO_2 Group 1 Trading Program). The Administrator's response approving or disapproving any petition for an alternative monitoring system is available on the EPA's website at http://www.epa.gov/airmarkets/part-75-petition-responses.

4. Owners and operators that want to use an alternative to any monitoring, recordkeeping, or reporting requirement under 40 CFR 97.430 through 97.434 (TR NO_X Annual Trading Program), 97.530 through 97.534 (TR NO_X Ozone Season Group 2 Trading Program) and/or 97.630 through 97.634 (TR SO_2 Group 1 Trading Program) must submit to the Administrator a petition requesting approval of the alternative in accordance with 40 CFR 75.66 and 97.435 (TR NO_X Annual Trading Program), 97.535 (TR NO_X Ozone Season Group 2 Trading Program) and/or 97.635 (TR SO_2 Group 1 Trading Program). The Administrator's response approving or disapproving any petition for an alternative to a monitoring,

recordkeeping, or reporting requirement is available on EPA's website at http://www.epa.gov/airmarkets/part-75-petition-responses.

5. The descriptions of monitoring applicable to the unit included above meet the requirement of 40 CFR 97.430 through 97.434 (TR NO_X Annual Trading Program), 97.530 through 97.534 (TR NO_X Ozone Season Group 2 Trading Program) and 97.630 through 97.634 (TR SO_2 Group 1 Trading Program), and therefore minor permit modification procedures, in accordance with 40 CFR 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B), may be used to add to or change this unit's monitoring system description.

TR NO_X Annual Trading Program requirements (40 CFR 97.406)

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.413 through 97.418.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

(1) The owners and operators, and the designated representative, of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.430 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.431 (initial monitoring system certification and recertification procedures), 97.432 (monitoring system out-of-control periods), 97.433 (notifications concerning monitoring), 97.434 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.435 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).

(2) The emissions data determined in accordance with 40 CFR 97.430 through 97.435 shall be used to calculate allocations of TR NO_X Annual allowances under 40 CFR 97.411(a)(2) and (b) and 97.412 and to determine compliance with the TR NO_X Annual emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.430 through 97.435 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) NO_X emissions requirements.

(1) TR NO_X Annual emissions limitation.

(i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall hold, in the source's compliance account, TR NO_X Annual allowances available for deduction for such control period under 40 CFR 97.424(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Annual units at the source.

(ii). If total NO_X emissions during a control period in a given year from the TR NO_X Annual units at a TR NO_X Annual source are in excess of the TR NO_X Annual emissions limitation set forth in paragraph (c)(1)(i) above, then:

(A). The owners and operators of the source and each TR NO_X Annual unit at the source shall hold the TR NO_X Annual allowances required for deduction under 40 CFR 97.424(d); and

(B). The owners and operators of the source and each TR NO_X Annual unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess

emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.

(2) TR NO_X Annual assurance provisions.

(i). If total NO_X emissions during a control period in a given year from all TR NO_X Annual units at TR NO_X Annual sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_X emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_X Annual allowances available for deduction for such control period under 40 CFR 97.425(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.425(b), of multiplying— (A) The quotient of the amount by which the common designated representative's share of such NO_X emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_X emissions exceeds the respective common designated representative's assurance level; and (B) The amount by which total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the state for such control period exceed the state assurance level.

(ii). The owners and operators shall hold the TR NO_X Annual allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii). Total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the State during a control period in a given year exceed the state assurance level if such total NO_X emissions exceed the sum, for such control period, of the state NO_X Annual trading budget under 40 CFR 97.410(a) and the state's variability limit under 40 CFR 97.410(b).

(iv). It shall not be a violation of 40 CFR part 97, subpart AAAAA or of the Clean Air Act if total NO_X emissions from all TR NO_X Annual units at TR NO_X Annual sources in the State during a control period exceed the state assurance level or if a common designated representative's share of total NO_X emissions from the TR NO_X Annual units at TR NO_X Annual sources in the state during a control period exceeds the common designated representative's assurance level.

(v). To the extent the owners and operators fail to hold TR NO_X Annual allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,

(A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B). Each TR NO_X Annual allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart AAAAA and the Clean Air Act.

(3) Compliance periods.

(i). A TR NO_X Annual unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.

(ii). A TR NO_X Annual unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.430(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance.

(i). A TR NO_X Annual allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_X Annual allowance that was allocated for such control period or a control period in a prior year.

(ii). A TR NO_X Annual allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_X Annual allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR NO_X Annual allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart AAAAA.

(6) Limited authorization. A TR NO_X Annual allowance is a limited authorization to emit one ton of NO_X during the control period in one year. Such authorization is limited in its use and duration as follows:

(i). Such authorization shall only be used in accordance with the TR NO_X Annual Trading Program; and

(ii). Notwithstanding any other provision of 40 CFR part 97, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR NO_X Annual allowance does not constitute a property right.

(d) Title V permit revision requirements.

(1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_X Annual allowances in accordance with 40 CFR part 97, subpart AAAAA.

(2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.430 through 97.435, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.406(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

(1) Unless otherwise provided, the owners and operators of each TR NO_X Annual source and each TR NO_X Annual unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i). The certificate of representation under 40 CFR 97.416 for the designated representative for the source and each TR NO_X Annual unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a

new certificate of representation under 40 CFR 97.416 changing the designated representative.

(ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart AAAAA.

(iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_X Annual Trading Program.

(2) The designated representative of a TR NO_X Annual source and each TR NO_X Annual unit at the source shall make all submissions required under the TR NO_X Annual Trading Program, except as provided in 40 CFR 97.418. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

(1) Any provision of the TR NO_X Annual Trading Program that applies to a TR NO_X Annual source or the designated representative of a TR NO_X Annual source shall also apply to the owners and operators of such source and of the TR NO_X Annual units at the source.

(2) Any provision of the TR NO_X Annual Trading Program that applies to a TR NO_X Annual unit or the designated representative of a TR NO_X Annual unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR NO_X Annual Trading Program or exemption under 40 CFR 97.405 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_X Annual source or TR NO_X Annual unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

TR NO_X Ozone Season Group 2 Trading Program Requirements (40 CFR 97.506)

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.513 through 97.518.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

(1) The owners and operators, and the designated representative, of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.530 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.531 (initial monitoring system certification and recertification procedures), 97.532 (monitoring system out-of-control periods), 97.533 (notifications concerning monitoring), 97.534 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.535 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).

(2) The emissions data determined in accordance with 40 CFR 97.530 through 97.535 shall be used to calculate allocations of TR NO_X Ozone Season allowances under 40 CFR 97.511(a)(2) and (b) and 97.512 and to determine compliance with the TR NO_X Ozone Season emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.530 through 97.535 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) NO_X emissions requirements.

(1) TR NO_X Ozone Season emissions limitation.

(i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall hold, in the source's compliance account, TR NO_X Ozone Season allowances available for deduction for such control period under 40 CFR 97.524(a) in an amount not less than the tons of total NO_X emissions for such control period from all TR NO_X Ozone Season units at the source.

(ii). If total NO_X emissions during a control period in a given year from the TR NO_X Ozone Season units at a TR NO_X Ozone Season source are in excess of the TR NO_X Ozone Season emissions limitation set forth in paragraph (c)(1)(i) above, then:

(A). The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall hold the TR NO_X Ozone Season allowances required for deduction under 40 CFR 97.524(d); and

(B). The owners and operators of the source and each TR NO_X Ozone Season unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBBB and the Clean Air Act.

(2) TR NO_X Ozone Season assurance provisions.

(i). If total NO_X emissions during a control period in a given year from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such NO_X emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR NO_X Ozone Season allowances available for deduction for such control period under 40 CFR 97.525(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.525(b), of multiplying—

(A). The quotient of the amount by which the common designated representative's share of such NO_X emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such NO_X emissions exceeds the respective common designated representative's assurance level; and

(B). The amount by which total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the state for such control period exceed the state assurance level.

(ii). The owners and operators shall hold the TR NO_X Ozone Season allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii). Total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the state during a control period in a given year exceed the state assurance level if such total NO_X emissions exceed the sum, for such control period, of the State NO_X Ozone Season trading budget under 40 CFR 97.510(a) and the state's variability limit under 40 CFR 97.510(b).

(iv). It shall not be a violation of 40 CFR part 97, subpart BBBBB or of the Clean Air Act if total NO_X emissions from all TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total NO_X emissions from the TR NO_X Ozone Season units at TR NO_X Ozone Season sources in the state during a control period exceeds the common designated representative's assurance level.

(v). To the extent the owners and operators fail to hold TR NO_X Ozone Season allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,

(A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B). Each TR NO_X Ozone Season allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart BBBBB and the Clean Air Act.

(3) Compliance periods.

(i). A TR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of May 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.

(ii). A TR NO_X Ozone Season unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of May 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.530(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance.

(i). A TR NO_X Ozone Season allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR NO_X Ozone Season allowance that was allocated for such control period or a control period in a prior year.

(ii). A TR NO_X Ozone Season allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR NO_X Ozone Season allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR NO_X Ozone Season allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart BBBBB.

(6) Limited authorization. A TR NO_X Ozone Season allowance is a limited authorization to emit one ton of NO_X during the control period in one year. Such authorization is limited in its use and duration as follows:

(i). Such authorization shall only be used in accordance with the TR NO_X Ozone Season Group 2 Trading Program; and

(ii). Notwithstanding any other provision of 40 CFR part 97, subpart BBBBB, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR NO_X Ozone Season allowance does not constitute a property right.

(d) Title V permit revision requirements.

(1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR NO_X Ozone Season allowances in accordance with 40 CFR part 97, subpart BBBBB.

(2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.530 through 97.535, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E). Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.506(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

(1) Unless otherwise provided, the owners and operators of each TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i). The certificate of representation under 40 CFR 97.516 for the designated representative for the source and each TR NO_X Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.516 changing the designated representative.

(ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart BBBBB.

(iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR NO_X Ozone Season Group 2 Trading Program.

(2) The designated representative of a TR NO_X Ozone Season source and each TR NO_X Ozone Season unit at the source shall make all submissions required under the TR NO_X Ozone Season Group 2 Trading Program, except as provided in 40 CFR 97.518. This requirement does not change, create an exemption from, or otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

(1) Any provision of the TR NO_X Ozone Season Group 2 Trading Program that applies to a TR NO_X Ozone Season source or the designated representative of a TR NO_X Ozone Season source shall also apply to the owners and operators of such source and of the TR NO_X Ozone Season units at the source.

(2) Any provision of the TR NO_X Ozone Season Group 2 Trading Program that applies to a TR NO_X Ozone Season unit or the designated representative of a TR NO_X Ozone Season unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR NO_X Ozone Season Group 2 Trading Program or exemption under 40 CFR 97.505 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR NO_X Ozone Season source or TR NO_X Ozone Season unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

<u>TR SO_2 Group 1 Trading Program requirements (40 CFR 97.606)</u>

(a) Designated representative requirements.

The owners and operators shall comply with the requirement to have a designated representative, and may have an alternate designated representative, in accordance with 40 CFR 97.613 through 97.618.

(b) Emissions monitoring, reporting, and recordkeeping requirements.

(1) The owners and operators, and the designated representative, of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR 97.630 (general requirements, including installation, certification, and data accounting, compliance deadlines, reporting data, prohibitions, and long-term cold storage), 97.631 (initial monitoring system certification and recertification procedures), 97.632 (monitoring system out-of-control periods), 97.633 (notifications concerning monitoring), 97.634 (recordkeeping and reporting, including monitoring plans, certification applications, quarterly reports, and compliance certification), and 97.635 (petitions for alternatives to monitoring, recordkeeping, or reporting requirements).

(2) The emissions data determined in accordance with 40 CFR 97.630 through 97.635 shall be used to calculate allocations of TR SO_2 Group 1 allowances under 40 CFR 97.611(a)(2) and (b) and 97.612 and to determine compliance with the TR SO_2 Group 1 emissions limitation and assurance provisions under paragraph (c) below, provided that, for each monitoring location from which mass emissions are reported, the mass emissions amount used in calculating such allocations and determining such compliance shall be the mass emissions amount for the monitoring location determined in accordance with 40 CFR 97.630 through 97.635 and rounded to the nearest ton, with any fraction of a ton less than 0.50 being deemed to be zero.

(c) SO_2 emissions requirements.

(1) TR SO_2 Group 1 emissions limitation.

(i). As of the allowance transfer deadline for a control period in a given year, the owners and operators of each TR SO_2 Group 1 source and each TR SO2 Group 1 unit at the source shall hold, in the source's compliance account, TR SO_2 Group 1 allowances available for deduction for such control period under 40 CFR 97.624(a) in an amount not less than the tons of total SO_2 emissions for such control period from all TR SO_2 Group 1 units at the source.

(ii). If total SO_2 emissions during a control period in a given year from the TR SO_2 Group 1 units at a TR SO_2 Group 1 source are in excess of the TR SO_2 Group 1 emissions limitation set forth in paragraph (c)(1)(i) above, then:

(A). The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall hold the TR SO_2 Group 1 allowances required for deduction under 40 CFR 97.624(d); and

(B). The owners and operators of the source and each TR SO_2 Group 1 unit at the source shall pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act, and each ton of such excess emissions and each day of such control period shall constitute a separate violation 40 CFR part 97, subpart CCCCC and the Clean Air Act.

(2) TR SO_2 Group 1 assurance provisions.

(i). If total SO_2 emissions during a control period in a given year from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the state exceed the state assurance level, then the owners and operators of such sources and units in each group of one or more sources and units having a common designated representative for such control period, where the common designated representative's share of such SO_2 emissions during such control period exceeds the common designated representative's assurance level for the state and such control period, shall hold (in the assurance account established for the owners and operators of such group) TR SO_2 Group 1 allowances available for deduction for such

control period under 40 CFR 97.625(a) in an amount equal to two times the product (rounded to the nearest whole number), as determined by the Administrator in accordance with 40 CFR 97.625(b), of multiplying—

(A). The quotient of the amount by which the common designated representative's share of such SO_2 emissions exceeds the common designated representative's assurance level divided by the sum of the amounts, determined for all common designated representatives for such sources and units in the state for such control period, by which each common designated representative's share of such SO_2 emissions exceeds the respective common designated representative's assurance level; and

(B). The amount by which total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the state for such control period exceed the state assurance level.

(ii). The owners and operators shall hold the TR SO_2 Group 1 allowances required under paragraph (c)(2)(i) above, as of midnight of November 1 (if it is a business day), or midnight of the first business day thereafter (if November 1 is not a business day), immediately after such control period.

(iii). Total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the state during a control period in a given year exceed the state assurance level if such total SO_2 emissions exceed the sum, for such control period, of the state SO_2 Group 1 trading budget under 40 CFR 97.610(a) and the state's variability limit under 40 CFR 97.610(b).

(iv). It shall not be a violation of 40 CFR part 97, subpart CCCCC or of the Clean Air Act if total SO_2 emissions from all TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the state during a control period exceed the state assurance level or if a common designated representative's share of total SO_2 emissions from the TR SO_2 Group 1 units at TR SO_2 Group 1 sources in the state during a control period exceeds the common designated representative's assurance level.

(v). To the extent the owners and operators fail to hold TR SO_2 Group 1 allowances for a control period in a given year in accordance with paragraphs (c)(2)(i) through (iii) above,

(A). The owners and operators shall pay any fine, penalty, or assessment or comply with any other remedy imposed under the Clean Air Act; and

(B). Each TR SO_2 Group 1 allowance that the owners and operators fail to hold for such control period in accordance with paragraphs (c)(2)(i) through (iii) above and each day of such control period shall constitute a separate violation of 40 CFR part 97, subpart CCCCC and the Clean Air Act.

(3) Compliance periods.

(i). A TR SO_2 Group 1 unit shall be subject to the requirements under paragraph (c)(1) above for the control period starting on the later of January 1, 2015 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.

(ii). A TR SO_2 Group 1 unit shall be subject to the requirements under paragraph (c)(2) above for the control period starting on the later of January 1, 2017 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 97.630(b) and for each control period thereafter.

(4) Vintage of allowances held for compliance.

(i). A TR SO_2 Group 1 allowance held for compliance with the requirements under paragraph (c)(1)(i) above for a control period in a given year must be a TR SO_2 Group 1 allowance that was allocated for such control period or a control period in a prior year.

(ii). A TR SO_2 Group 1 allowance held for compliance with the requirements under paragraphs (c)(1)(ii)(A) and (2)(i) through (iii) above for a control period in a given year must be a TR

SO_2 Group 1 allowance that was allocated for a control period in a prior year or the control period in the given year or in the immediately following year.

(5) Allowance Management System requirements. Each TR SO_2 Group 1 allowance shall be held in, deducted from, or transferred into, out of, or between Allowance Management System accounts in accordance with 40 CFR part 97, subpart CCCCC.

(6) Limited authorization. A TR SO_2 Group 1 allowance is a limited authorization to emit one ton of SO_2 during the control period in one year. Such authorization is limited in its use and duration as follows:

(i). Such authorization shall only be used in accordance with the TR SO_2 Group 1 Trading Program; and

(ii). Notwithstanding any other provision of 40 CFR part 97, subpart CCCCC, the Administrator has the authority to terminate or limit the use and duration of such authorization to the extent the Administrator determines is necessary or appropriate to implement any provision of the Clean Air Act.

(7) Property right. A TR SO_2 Group 1 allowance does not constitute a property right.

(d) Title V permit revision requirements.

(1) No title V permit revision shall be required for any allocation, holding, deduction, or transfer of TR SO_2 Group 1 allowances in accordance with 40 CFR part 97, subpart CCCCC.

(2) This permit incorporates the TR emissions monitoring, recordkeeping and reporting requirements pursuant to 40 CFR 97.630 through 97.635, and the requirements for a continuous emission monitoring system (pursuant to 40 CFR part 75, subparts B and H), an excepted monitoring system (pursuant to 40 CFR part 75, appendices D and E), a low mass emissions excepted monitoring methodology (pursuant to 40 CFR part 75.19), and an alternative monitoring system (pursuant to 40 CFR part 75, subpart E), Therefore, the Description of TR Monitoring Provisions table for units identified in this permit may be added to, or changed, in this title V permit using minor permit modification procedures in accordance with 40 CFR 97.606(d)(2) and 70.7(e)(2)(i)(B) or 71.7(e)(1)(i)(B).

(e) Additional recordkeeping and reporting requirements.

(1) Unless otherwise provided, the owners and operators of each TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall keep on site at the source each of the following documents (in hardcopy or electronic format) for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Administrator.

(i). The certificate of representation under 40 CFR 97.616 for the designated representative for the source and each TR SO_2 Group 1 unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such certificate of representation and documents are superseded because of the submission of a new certificate of representation under 40 CFR 97.616 changing the designated representative.

(ii). All emissions monitoring information, in accordance with 40 CFR part 97, subpart CCCCC.

(iii). Copies of all reports, compliance certifications, and other submissions and all records made or required under, or to demonstrate compliance with the requirements of, the TR SO_2 Group 1 Trading Program.

(2) The designated representative of a TR SO_2 Group 1 source and each TR SO_2 Group 1 unit at the source shall make all submissions required under the TR SO_2 Group 1 Trading Program, except as provided in 40 CFR 97.618. This requirement does not change, create an exemption from, or

otherwise affect the responsible official submission requirements under a title V operating permit program in 40 CFR parts 70 and 71.

(f) Liability.

(1) Any provision of the TR SO_2 Group 1 Trading Program that applies to a TR SO_2 Group 1 source or the designated representative of a TR SO_2 Group 1 source shall also apply to the owners and operators of such source and of the TR SO_2 Group 1 units at the source.

(2) Any provision of the TR SO_2 Group 1 Trading Program that applies to a TR SO_2 Group 1 unit or the designated representative of a TR SO_2 Group 1 unit shall also apply to the owners and operators of such unit.

(g) Effect on other authorities.

No provision of the TR SO_2 Group 1 Trading Program or exemption under 40 CFR 97.605 shall be construed as exempting or excluding the owners and operators, and the designated representative, of a TR SO_2 Group 1 source or TR SO_2 Group 1 unit from compliance with any other provision of the applicable, approved state implementation plan, a federally enforceable permit, or the Clean Air Act.

Appendix D. Executive Order (EO10) Rules Crosswalk

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
20	**20 (Reserved)**	Scope of Title - Definitions	N/A	**Definitions moved** to Ch. 21, 22 and 23. **Rescinded** Ch. 20. (Reserved)
21	**21**	Compliance	Compliance, Excess Emissions, and Measurement of Emissions	**Kept and combined** with rules from Chapters 24, 25, 26, and 29.
22	**22**	Controlling Pollution-Permits	Controlling Air Pollution - Construction Permitting	**Kept construction permit rules and combined** with Ch. 20 (definitions) and Ch. 28 (NAAQS). **Moved operating permit rules** to Chapter 24.
22.100 - 22.300(12)	**(New) 24**	N/A	Operating Permits	**Moved operating permit rules** from Ch. 22 to Ch. 24.
23	**23**	Emission Standards	Air Emission Standards	**Kept**
24	**(New) 21**	Excess Emissions	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Moved TV rules** here (to Ch. 24).
25	**(New) 21**	Emissions Measurement	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 25. (Reserved)
26	**(New) 21**	Emergency Air Pollution Episodes	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 26. (Reserved)
27	**27**	Local Program Acceptance	Local Program Acceptance	**Kept**
28	**22**	NAAQS	N/A	**Moved rules and combined** with Ch. 22. **Rescinded** Ch. 28. (Reserved)
29	**(New) 21**	Opacity Qualifications	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 29. (Reserved)
30	**30**	Fees	Fee	**Kept**
31	**31**	Nonattainment Areas	Nonattainment New Source Review	**Kept**
32	**N/A**	AFO Field Study	N/A	**Rescinded** Ch. 32. (Reserved)
33	**33**	Special regulations and construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD) of air quality	Construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD)	**Kept**
34	**N/A**	Emissions Trading-CAIR-CAMR	N/A	**Rescinded** Ch. 34. (Reserved)
35	**N/A**	Grant Assistance Programs	N/A	**Rescinded** Ch. 35. (Reserved)

Previous Chapter Number (Priorto 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
20	**20 (Reserved)**	**Scope of Title - Definitions**	**N/A**	**Definitions moved** to Ch. 21, 22 and 23. **Rescinded** Ch. 20. (Reserved)
20.1	N/A	Scope of title	N/A	
20.2	Ch. 21, 22, 23	Definitions	Definitions	See beginning of Ch. 21, 22, and 23
20.3	N/A	Air quality forms generally	N/A	

21	**21**	**Compliance**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Kept and combined** with rules from Chapters 24, 25, 26, and 29.
21.1	21.1	Compliance Schedule	Definitions and compliance requirements	Added definitions from Ch. 21, some language updated
21.2	21.2	Variances	Variances	Some language updated
21.3	21.3	Emission reduction program	Reserved	Reserved
21.4	21.4	Circumvention of rules	Circumvention of rules	Minor language updated
21.5	21.5	Evidence used in establishing that a violation has or is occurring	Evidence used in establishing that a violation has occurred or is occurring	21.5(2) Reserved, some language updated
21.6	21.6	Temporary electricity generation for disaster situations	Temporary electricity generation for disaster situations	Minor language updated
24.1	21.7	Excess emission reporting	Excess emission reporting	Moved from Ch. 24, some language updated
24.2	21.8	Maintenance and repair requirements	Maintenance and repair requirements	Moved from Ch. 24, some language updated
N/A	21.9	N/A	Compliance with other requirements	New language
25.1	21.10	Testing and sampling of new and existing equipment	Testing and sampling of new and existing equipment	Moved from Ch. 25, some language updated
25.2	21.11	Continuous emission monitoring under the acid rain program	Continuous emission monitoring under the acid rain program	Moved from Ch. 25, some language updated
25.3	N/A	Mercury emissions testing and monitoring	N/A	Rescinded. Except 25.3(5)
25.3(5)	21.12	Affected sources subject to Section 112(g)	Affected sources subject to Section 112(g)	Moved from Ch. 25, some language updated
29.1	21.13	Methodology and qualified observer	Methodology and qualified observer	Moved from Ch. 29, some language updated
26.1	21.14	Prevention of air pollution emergency episodes - General	Prevention of air pollution emergency episodes	Moved from Ch. 26, some language updated
26.2	21.15	Episode criteria	Episode criteria	Moved from Ch. 26, some language updated
26.3	21.16	Preplanned abatement strategies	Preplanned abatement strategies	Moved from Ch. 26, some language updated
26.4	21.17	Actions taken during episodes	Actions taken during episodes	Moved from Ch. 26, some language updated
Ch 26 Table III	Table I	Abatement strategies emission reduction actions alert level	Abatement strategies emission reduction actions alert level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table IV	Table II	Abatement strategies emission reduction actions warning level	Abatement strategies emission reduction actions warning level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table V	Table III	Abatement strategies emission reduction actions emergency level	Abatement strategies emission reduction actions emergency level	Moved from Ch. 26, reference federal appendix table

22	**22**	**Controlling Pollution-Permits**	**Controlling Air Pollution - Construction Permitting**	**Kept construction permit rules and combined** with Ch. 20 (definitions) and Ch. 28 (NAAQS). **Moved operating permit rules** to Chapter 24.
22.1	22.1	Permits required for new or existing stationary sources	Definitions and permit requirements for new or existing stationary sources	Added definitions from Ch. 20, some language updated
22.2	22.2	Processing permit applications	Processing permit applications	
22.3	22.3	Issuing permits	Issuing permits	
22.4	22.4	Special requirements for major stationary sources located in areas designated attainment or unclassified (PSD)	Major stationary sources located in areas designated attainment or unclassified (PSD)	
22.5	22.5	Special requirements for nonattainment areas	Major stationary sources located in areas designated Nonattainment	
22.6	22.6	Nonattainment area designations	Reserved	

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
22.7	22.7	Alternative emission control program	Alternative emission control program	
22.8	22.8	Permit by rule	Permit by rule	
22.9	22.9	Special requirements for visibility protection	Special requirements for visibility protection	A lot of language updated or removed
22.10	22.10	Permitting requirements for country grain elevators, country grain terminal elevators, grain terminal elevators and feed mill equipment	Permitting requirements for country grain elevators, country grain terminal elevators, grain terminal elevators and feed mill equipment	
28.1	22.11	Ambient air quality standards - Statewide standards	Ambient air quality standards	Moved from Ch. 28, minor language updated
22.12 to 22.99	N/A	Reserved	N/A	Removed

22.100 - 22.300(12)	**(New) 24**	**N/A**	**Operating Permits**	**Moved operating permit rules** from Ch. 22 to Ch. 24.
22.100	24.100	Definitions for Title V operating permits	Definitions for Title V operating permits	Moved from Ch. 22, some language updated, many 40 CFR 70 definitions adopted by reference
22.101	24.101	Applicability of Title V operating permit requirements	Applicability of Title V operating permit requirements	Moved from Ch. 22, some language updated to correct punctuation and remove old dates
22.102	24.102	Source category exemptions	Source category exemptions	Moved from Ch. 22, some language updated to correct punctuation
22.103	24.103	Insignificant activities	Insignificant activities	Moved from Ch. 22, some language updated to correct typos and remove old dates
22.104	24.104	Requirement to have a Title V permit	Requirement to have a Title V permit	Moved from Ch. 22, some language updated no changes to rule text
22.105	24.105	Title V permit applications	Title V permit applications	Moved from Ch. 22, updated language to address electronic submissions and remove past application due dates
22.106	24.106	Annual Title V emissions inventory	Annual Title V emissions inventory	Moved from Ch. 22, no changes to rule text
22.107	24.107	Title V permit processing procedures	Title V permit processing procedures	Moved from Ch. 22, some language updated to update locations of public records and remove old CFR amendment dates
22.108	24.108	Permit content	Permit content	Moved from Ch. 22, some language updated to correct punctuation, remove old dates, and adopt 40 CFR 70 rules by reference
22.109	24.109	General permits	General permits	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.110	24.110	Changes allowed without a Title V permit revision (off-permit revisions)	Changes allowed without a Title V permit revision (off-permit revisions)	Moved from Ch. 22, some language updated to remove redundant language
22.111	24.111	Administrative amendments to Title V permits	Administrative amendments to Title V permits	Moved from Ch. 22, no changes to rule text
22.112	24.112	Minor Title V permit modifications	Minor Title V permit modifications	Moved from Ch. 22, no changes to rule text
22.113	24.113	Significant Title V permit modifications	Significant Title V permit modifications	Moved from Ch. 22, no changes to rule text
22.114	24.114	Title V permit reopenings	Title V permit re-openings	Moved from Ch. 22 to Ch. 24, some language updated to adopt 40 CFR 70 rules by reference
22.115	24.115	Suspension, termination, and revocation of Title V permits	Suspension, termination, and revocation of Title V permits	Moved from Ch. 22, no changes to rule text
22.116	24.116	Title V permit renewals	Title V permit renewals	Moved from Ch. 22, no changes to rule text
22.117-22.119	24.117-24.119	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.120	24.120	Acid rain program—definitions	Acid rain program—definitions	Moved from Ch. 22, some language updated to remove old CFR amendment dates and address electronic submissions
22.121	24.121	Measurements, abbreviations, and acronyms	Reserved	Moved from Ch. 22, no changes to rule text
22.122	24.122	Applicability	Applicability	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.123	24.123	Acid rain exemptions	Acid rain exemptions	Moved from Ch. 22, some language updated to correct punctuation
22.124	24.124	Retired units exemption	Reserved	Moved from Ch. 22, no changes to rule text
22.125	24.125	Standard requirements	Standard requirements	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.126	24.126	Designated representative—submissions	Designated representative—submissions	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.127	24.127	Designated representative—objections	Designated representative—objections	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.128	24.128	Acid rain applications—requirement to apply	Acid rain applications—requirement to apply	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
22.129	24.129	Information requirements for acid rain permit applications	Information requirements for acid rain permit applications	Moved from Ch. 22, no changes to rule text
22.130	24.130	Acid rain permit application shield and binding effect of permit application	Acid rain permit application shield and binding effect of permit application	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.131	24.131	Acid rain compliance plan and compliance options—general	Acid rain compliance plan and compliance options—general	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.132	24.132	Repowering extensions	Reserved	Moved from Ch. 22, no changes to rule text
22.133	24.133	Acid rain permit contents—general	Acid rain permit contents—general	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.134	24.134	Acid rain permit shield	Acid rain permit shield	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.135	24.135	Acid rain permit issuance procedures—general	Acid rain permit issuance procedures—general	Moved from Ch. 22, no changes to rule text
22.136	24.136	Acid rain permit issuance procedures—completeness	Acid rain permit issuance procedures—completeness	Moved from Ch. 22, no changes to rule text
22.137	24.137	Acid rain permit issuance procedures—statement of basis	Acid rain permit issuance procedures—statement of basis	Moved from Ch. 22, no changes to rule text
22.138	24.138	Issuance of acid rain permits	Issuance of acid rain permits	Moved from Ch. 22, some language updated to remove old dates and deadlines
22.139	24.139	Acid rain permit appeal procedures	Acid rain permit appeal procedures	Moved from Ch. 22, no changes to rule text
22.140	24.140	Permit revisions—general	Permit revisions—general	Moved from Ch. 22, some language updated to remove old dates
22.141	24.141	Permit modifications	Permit modifications	Moved from Ch. 22, no changes to rule text
22.142	24.142	Fast-track modifications	Fast-track modifications	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.143	24.143	Administrative permit amendment	Administrative permit amendment	Moved from Ch. 22, some language updated to remove fax option
22.144	24.144	Automatic permit amendment	Automatic permit amendment	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.145	24.145	Permit reopenings	Permit re-openings	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.146	24.146	Compliance certification—annual report	Compliance certification—annual report	Moved from Ch. 22, no changes to rule text
22.147	24.147	Compliance certification—units with repowering extension plans	Reserved	Moved from Ch. 22, no changes to rule text
22.148	24.148	Sulfur dioxide opt-ins	Sulfur dioxide opt-ins	Moved from Ch. 22, some language updated to update the 40 CFR Part 74 amendment date
22.149 - 22.199	24.149 - 24.299	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.200	24.200 - 24.299	Definitions for voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.201	24.200 - 24.299	Eligibility for voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.203	24.200 - 24.299	Voluntary operating permit applications	Reserved	Moved from Ch. 22, no changes to rule text
22.204	24.200 - 24.299	Voluntary operating permit fees	Reserved	Moved from Ch. 22, no changes to rule text
22.205	24.200 - 24.299	Voluntary operating permit processing procedures	Reserved	Moved from Ch. 22, no changes to rule text
22.206	24.200 - 24.299	Permit content	Reserved	Moved from Ch. 22, no changes to rule text
22.207	24.200 - 24.299	Relation to construction permits	Reserved	Moved from Ch. 22, no changes to rule text
22.208	24.200 - 24.299	Suspension, termination, and revocation of voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.209	24.200 - 24.299	Change of ownership for facilities with voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.210 - 22.299	24.200 - 24.299	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.300	24.300	Operating permit by rule for small sources	Operating permit by rule for small sources	Moved from Ch. 22, no changes to rule text

23	**23**	**Emission Standards**	**Air Emission Standards**	**Kept**
23.1	23.1	Emission standards	Emission standards	Kept, language updated, tables used
23.2	23.2	Open burning	Open burning	Kept, some language updated
23.3	23.3	Specific contaminants	Specific contaminants	Kept, some language updated
23.4	23.4	Specific processes	Specific processes	Kept, some language updated
23.5	23.5	Anaerobic lagoons	Anaerobic lagoons	Kept, some language updated
23.6	23.6	Alternative emission limits (the “bubble concept”)	Reserved	Removed

Previous Chapter Number (Priorto 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
24	**(New) 21**	**Excess Emissions**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Moved operating permit rules** here (to Ch. 24)**.**
24.1	21.7	Excess emission reporting	Excess emission reporting	Moved from Ch. 24, some language updated
24.2	21.8	Maintenance and repair requirements	Maintenance and repair requirements	Moved from Ch. 24, some language updated
25	**(New) 21**	**Emissions Measurement**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 25. (Reserved)
25.1	21.10	Testing and sampling of new and existing equipment	Testing and sampling of new and existing equipment	Moved from Ch. 25, some language updated
25.2	21.11	Continuous emission monitoring under the acid rain program	Continuous emission monitoring under the acid rain program	Moved from Ch. 25, some language updated
25.3		Mercury emissions testing and monitoring	N/A	Rescinded. Except 25.3(5)
25.3(5)	21.12	Affected sources subject to Section 112(g)	Affected sources subject to Section 112(g)	Moved from Ch. 25, some language updated
26	**(New) 21**	**Emergency Air Pollution Episodes**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 26. (Reserved)
26.1	21.14	Prevention of air pollution emergency episodes - General	Prevention of air pollution emergency episodes	Moved from Ch. 26, some language updated
26.2	21.15	Episode criteria	Episode criteria	Moved from Ch. 26, some language updated
26.3	21.16	Preplanned abatement strategies	Preplanned abatement strategies	Moved from Ch. 26, some language updated
26.4	21.17	Actions taken during episodes	Actions taken during episodes	Moved from Ch. 26, some language updated
Ch 26 Table III	Table I	Abatement strategies emission reduction actions alert level	Abatement strategies emission reduction actions alert level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table IV	Table II	Abatement strategies emission reduction actions warning level	Abatement strategies emission reduction actions warning level	Moved from Ch. 26, reference federal appendix table
Ch 26Table V	Table III	Abatement strategies emission reduction actions emergency level	Abatement strategies emission reduction actions emergency level	Moved from Ch. 26, reference federal appendix table
27	**27**	**Local Program Acceptance**	**Local Program Acceptance**	**Kept**
27.1	27.1	General	General	Kept, some language updated
27.2	27.2	Certificate of acceptance	Certificate of acceptance	Kept, some language updated
27.3	27.3	Ordinance or regulations	Ordinance or regulations	Kept, some language updated
27.4	27.4	Administrative organization	Administrative organization	Kept, some language updated
27.5	27.5	Program activities	Program activities	Kept, some language updated
28	**22**	**NAAQS**	**N/A**	**Moved rules and combined** with Ch. 22. **Rescinded** Ch. 28. (Reserved)
28.1	22.11	Ambient air quality standards - Statewide standards	Ambient air quality standards	**Moved from Ch. 28**, minor language updated **Rescinded** Ch. 28. (Reserved)
29	**(New) 21**	**Opacity Qualifications**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 29. (Reserved)
29.1	21.13	Methodology and qualified observer	Methodology and qualified observer	Moved from Ch. 29, some language updated

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
30	**30**	**Fees**	**Fee**	**Kept**
30.1	30.1	Purpose	Purpose	Kept, language updated
30.2	30.2	Fees associated with new source review applications	Fees associated with new source review applications	Kept, some language updated
30.3	30.3	Fees associated with asbestos demolition or renovation notification	Fees associated with asbestos demolition or renovation notification	Kept, some language updated
30.4	30.4	Fees associated with Title V operating permits	Fees associated with Title V operating permits	Kept, some language updated
30.5	30.5	Fee advisory groups	Fee advisory groups	Kept, language updated
30.6	30.6	Process to establish or adjust fees and notification of fee rates	Process to establish or adjust fees and notification of fee rates	Kept, some language updated
30.7	30.7	Fee revenue	Reserved	Language removed

31	**31**	**Nonattainment Areas**	**Nonattainment New Source Review**	**Kept**
31.1	31.1	Permit requirements relating to nonattainment areas	Permit requirements relating to nonattainment areas	Kept, some language updated
31.2	31.2	Conformity of general federal actions to the Iowa state implementation plan or federal implementation plan - Rescinded	Reserved	Language removed
31.3	31.3	Nonattainment new source review requirements for areas designated nonattainment on or after May 18, 1998	Nonattainment new source review (NNSR) requirements for areas designated nonattainment	Kept, some language updated
31.4	31.4	Preconstruction review permit program	Preconstruction review permit program	Kept
31.5 - 31.8	31.5 - 31.8	Reserved	Reserved	Kept
31.9	31.9	Actuals PALs	Actuals PALs	Kept, some language updated
31.10	31.10	Validity of rules	Validity of rules	Kept
31.11 - 31.19	N/A	Reserved	N/A	Rescinded and removed
31.20	N/A	Special requirements for nonattainment areas designated before May 18, 1998	N/A	Rescinded and removed

32	**N/A**	**AFO Field Study**	**N/A**	**Rescinded** Ch. 32. (Reserved)
32.1	N/A	Animal feeding operations field study	N/A	Rescinded, reserved, and language removed
32.2	N/A	Definitions	N/A	Rescinded, reserved, and language removed
32.3	N/A	Exceedance of the health effects value (HEV) for hydrogen sulfide	N/A	Rescinded, reserved, and language removed
32.4	N/A	Exceedance of the health effects standard (HES) for hydrogen sulfide	N/A	Rescinded, reserved, and language removed
32.5	N/A	Iowa Air Sampling Manual	N/A	Rescinded, reserved, and language removed

33	**33**	**Special regulations and construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD) of air quality**	**Construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD)**	**Kept**
33.1	33.1	Purpose	Purpose	Kept, some language updated
33.2	33.2	Reserved	Reserved	Kept
33.3	33.3	Special construction permit requirements for major stationary sources in areas designated attainment or unclassified (PSD)	PSD construction permit requirements for major stationary sources	Kept, some language updated
33.4 - 33.8	33.4 - 33.8	Reserved	Reserved	Kept
33.9	33.9	Plantwide applicability limitations (PALs)	Plantwide applicability limitations (PALs)	Kept, some language updated
33.10	33.10	Exceptions to adoption by reference	Exceptions to adoption by reference	Kept, some language updated

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
34	**N/A**	**Emissions Trading-CAIR-CAMR**	**N/A**	**Rescinded** Ch. 34. (Reserved)
34.1	N/A	Purpose	N/A	Rescinded, reserved, and language removed
34.2 - 34.199	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.200	N/A	Provisions for air emissions trading and other requirements for the Clean Air Interstate Rule (CAIR) - rescinded	N/A	Rescinded, reserved, and language removed
34.201	N/A	CAIR NOx annual trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.202	N/A	CAIR designated representative for CAIR NOx sources - rescinded	N/A	Rescinded, reserved, and language removed
34.203	N/A	Permits - rescinded	N/A	Rescinded, reserved, and language removed
34.204	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.205	N/A	CAIR NOx allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.206	N/A	CAIR NOx allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed
34.207	N/A	CAIR NOx allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.208	N/A	Monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.209	N/A	CAIR NOx opt-in units - rescinded	N/A	Rescinded, reserved, and language removed
34.210	N/A	CAIR SO2 trading program - rescinded	N/A	Rescinded, reserved, and language removed
34.211 - 34.219	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.220	N/A	CAIR NOx ozone season trading program - rescinded	N/A	Rescinded, reserved, and language removed
34.221	N/A	CAIR NOx ozone season trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.222	N/A	CAIR designated representative for CAIR NOx ozone season sources - rescinded	N/A	Rescinded, reserved, and language removed
34.223	N/A	CAIR NOx ozone season permits - rescinded	N/A	Rescinded, reserved, and language removed
34.224	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.225	N/A	CAIR NOx ozone season allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.226	N/A	CAIR NOx ozone season allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed
34.227	N/A	CAIR NOx ozone season allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.228	N/A	CAIR NOx ozone season monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.229	N/A	CAIR NOx ozone season opt-in units - rescinded	N/A	Rescinded, reserved, and language removed
34.230 - 34.299	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.300	N/A	Provisions for air emissions trading and other requirements for the Clean Air Mercury Rule (CAMR) - rescinded	N/A	Rescinded, reserved, and language removed
34.301	N/A	Mercury (Hg) budget trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.302	N/A	Hg designated representative for Hg budget sources - rescinded	N/A	Rescinded, reserved, and language removed
34.303	N/A	General Hg budget trading program permit requirements - rescinded	N/A	Rescinded, reserved, and language removed
34.304	N/A	Hg allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.305	N/A	Hg allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
34.306	N/A	Hg allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.307	N/A	Monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.308	N/A	Performance specifications - rescinded	N/A	Rescinded, reserved, and language removed
35	**N/A**	**Grant Assistance Programs**	**N/A**	**Rescinded** Ch. 35. (Reserved)
35.1	N/A	Purpose	N/A	Rescinded, reserved, and language removed
35.2	N/A	Definitions	N/A	Rescinded, reserved, and language removed
35.3	N/A	Role of the department of natural resources	N/A	Rescinded, reserved, and language removed
35.4	N/A	Eligible projects	N/A	Rescinded, reserved, and language removed
35.5	N/A	Forms	N/A	Rescinded, reserved, and language removed
35.6	N/A	Project selection	N/A	Rescinded, reserved, and language removed
35.7	N/A	Funding sources	N/A	Rescinded, reserved, and language removed
35.8	N/A	Type of financial assistance	N/A	Rescinded, reserved, and language removed
35.9	N/A	Term of loans	N/A	Rescinded, reserved, and language removed
35.10	N/A	Reduced award	N/A	Rescinded, reserved, and language removed
35.11	N/A	Fund disbursement limitations	N/A	Rescinded, reserved, and language removed
35.12	N/A	Applicant cost share	N/A	Rescinded, reserved, and language removed
35.13	N/A	Eligible costs	N/A	Rescinded, reserved, and language removed
35.14	N/A	Ineligible costs	N/A	Rescinded, reserved, and language removed
35.15	N/A	Written agreement	N/A	Rescinded, reserved, and language removed
35.16	N/A	Financial assistance denial	N/A	Rescinded, reserved, and language removed

Iowa Department of Natural Resources
Draft Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 24.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

1. Muscatine Power and Water, located at 1700 Dick Drake Way, Muscatine, Iowa 52761 has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Ms. Jean Brewster.
2. Muscatine Power and Water is an Electrical Generation and Potable Water Plan. This facility consists of 98 emission units with potential emissions of:

Pollutant	**Abbreviation**	**Potential Emissions** (Tons per Year)
Particulate Matter (≤ 2.5 μm)	$PM_{2.5}$	407.46
Particulate Matter (≤ 10 μm)	PM_{10}	2,007.62
Particulate Matter	PM	2,126.48
Sulfur Dioxide	SO_2	5,050.48
Nitrogen Oxides	NO_x	5,551.94
Volatile Organic Compounds	VOC	79.62
Carbon Monoxide	CO	1,799.67
Lead	Lead	0.05
Hazardous Air Pollutants [(1)]	HAP	111.73

[(1)] May include the following: See application.

3. Muscatine Power and Water submitted a Title V Operating Permit renewal application on August 8, 2025. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107.
4. DNR has complied with the procedures set forth in 567 IAC 24.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.

DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from April 30, 2026 through May 30, 2026. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown below. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.
2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Derek Wedemeier at the DNR address shown below.
3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the renewal application. The responsiveness summary and the final permit will be available to the public upon request.

   Derek Wedemeier
   Iowa Department of Natural Resources - Air Quality Bureau
   6200 Park Ave
   Ste #200
   Des Moines, Iowa 50321
   Phone: (515) 725-9520
   E-mail: derek.wedemeier@dnr.iowa.gov

DNR concludes that:

1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 21-33, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.
3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 21-33.
4. DNR is required to comply with 567 IAC Chapter 24 in conjunction with issuing a Title V Operating Permit.
5. The issuance of this permit does not preclude the DNR from pursuing enforcement action for any violation.

Title V Application Review Notes

Applicant:	**Muscatine Power and Water**
SIC Code:	4911 (Fossil Fuel Power)
City:	Muscatine
County:	Muscatine (FO #6)
EIQ#:	92-3726
Facility#:	70-01-011
Permit #:	98-TV-021R5
Reviewer:	Derek Wedemeier
Date:	**DATE**

Facility Identification

Facility Name:	Muscatine Power and Water
Facility Location:	1700 Dick Drake Way, Muscatine, IA 52761
Responsible Official:	Jean Brewster
Phone:	(563) 262-3259

Background

Muscatine Power and Water is a municipal utility that provides electric, water, and communications products and services. The power plant operates three coal-fired electric generating facilities with a combined nameplate capacity of 293.55 MW.

This is the fifth renewal of the Muscatine Power and Water Title V permit. The application for renewal was received August 8, 2025.

Regulatory Status

Muscatine Power and Water is a major source for Title V. See Table 1 major source by pollutant.

Table 1
Title V Major Source by Pollutant

Pollutant	Major
PM_{10}	☒
SO_2	☒
NO_x	☒
VOC	☐
CO	☒
Lead	☐
Individual HAP	☒
Total HAPs	☒

HAPs emitted from the facility's emission units may include Hydrochloric Acid, Hydrogen Fluoride, Arsenic, Formaldehyde, Acetaldehyde, Acrolein, Cyanide, Manganese, Mercury Compounds, Chromium, Cadmium, Nickel, Benzene, Toluene, Ethylbenzene, Dichloromethane, Benzyl Chloride, Methyl Chloride, and Isophorone.

Program Applicability:

- PSD: YES.
- Part 61 NESHAP: YES. Subpart M.
- NSPS: YES. See Table 2.
- Part 63 NESHAP: YES. See Table 3.

Table 2
Emission Units Subject to NSPS

EP	Source Description	NSPS Subpart
100	Unit 10 Combustion Turbine w/ heat Recovery Steam Generator	KKKK
21	Rail Hoppers A, B and C; Feeder Belts A and B; Transfer Conveyor Load	Y
22	Rail Hoppers A, B and C; Feeder Belt A	Y
23A	Transfer Conveyor Discharge / Radial Stacker Load	Y
300	Barge Coal Unloader	Y
301	Coal Reclaim / RC-1 Conveyor Load; Reclaim Feeders	Y
302	Barge Unloader Discharge/UC-1 Conv. Load	Y
310B	Reclaim Feeder –2 Discharge/Reclaim Conveyor-2 Load	Y
311	UC-1 / RC-1 Conveyor Discharge/ Live Storage Coal Silo	Y
311B	Reclaim Conv-2 Discharge / LSCS-2 Load	Y
312	Silo Feeder SF-1 through SF-4 / LSC-1 Conveyor Load / ChemMod Additive Transfer to LSC-1 Conveyor	Y
312B	LSCS-2 Discharge/Silo Feeder-6 Load	Y
313B	Silo Feeder-6 Discharge / Reclaim Conveyor –3 Load	Y
314	Silo Feeder SF-1 through SF-4 / EPC-1 Conveyor Load; Reclaim Conveyor-3Discharge/EPC-1 Conveyor Load	Y
320	Unit 7 Coal Crusher & Bypass Feeder; Unit 8 Coal Crusher Feeders 8A & 8B; EPC-1 Conveyor Discharge; C-1 Conveyor & K-Conveyor Discharge/Unit 7 Surge Bins	Y
322	Unit 7 Coal Crusher; 7 & 8 Crusher & Coal Bypass Chute Discharge / L-Conveyor Load; Unit 8A & 8B Coal Crushers	Y
333	Track Hopper Feeders A & B / A-Conveyor Load; A-Conveyor Discharge / C-Conveyor Load; C-Conveyor Discharge / K-Conveyor Load; L-Conveyor Discharge / E-Conveyor Load	Y
341	E-Conveyor Discharge / Unit 8 Coal Bunkers 8A, 8B & 8C; G-Conveyor Discharge / Truck Loading & Unloading; E-Conveyor Discharge / F-Conveyor Load; F-Conveyor Discharge / Unit 7 Coal Bunkers 7A & 7B	Y

EP	Source Description	NSPS Subpart
351	LSC-1 Conveyer Discharge; PC-1 Conveyor Load; SOC-1 Conveyor Load	Y
360	PSC-9 Conveyor; Coal Silo 9A, 9B, 9C, 9D	Y
370	SOC-1 Conveyor Discharge / RSC-1 Conveyor Load; RSC Conveyor-1 Discharge	Y
90	Unit 9 Dry Bottom Tangential Fired Boiler	Da

Table 3
Emission Units Subject to NESHAP Part 63

EP	Source Description	NESHAP Subpart
100	Unit 10 Combustion Turbine w/ Recovery Steam Generator	YYYY
60	Auxiliary Boiler	DDDDD
70	Unit 7 Traveling Grate Stoker Boiler	DDDDD
80	Unit 8 Cyclone Boiler	UUUUU
90	Unit 9 Dry Bottom Tangential Fired Boiler	UUUUU
50	Emergency Generator (227 HP)	ZZZZ
820	Unit 8 Fire Protection Diesel Engine (182 HP)	ZZZZ
930	Unit 9 Fire Protection Diesel Engine (182 HP)	ZZZZ

Table 4
Other NSPS and NESHAP Applicability Determinations

EP	Source Description	Applicability Determination
7892	Portable Equipment Diesel Engine	Not subject to NSPS subpart IIII because both units were manufactured in 1984, which pre-dates the applicability date for the subpart.
50	Emergency Generator (227 HP)	
60	Auxiliary Boiler	Not subject to NSPS subpart Dc because the unit was built prior to the applicability date of June 9, 1989.
70	Unit 7 Traveling Grate Stoker Boiler	Not subject to NSPS subpart D because the units were constructed prior to the applicability date of December 22, 1976.
80	Unit 8 Cyclone Boiler	
24	Radial Stacker Discharge	Not subject to NSPS subpart Y because the definitions in the subpart do not include open storage piles or the equipment used to load or unload the pile for facilities that commenced construction prior to April 28, 2008.
330	Truck Loading & Unloading Track Hopper A-Conveyor	Not subject to NSPS subpart Y because these units were constructed prior to the applicability date of October 27, 1974.
330A		

- Acid Rain: YES.
- Stratospheric Ozone Protection: YES.
- Prevention of Accidental Releases: YES.
- CAM: YES. Several units have pre-control and uncontrolled potentials greater than major source thresholds, and therefore, are subject to CAM. See Table 5.

Emission Estimations

- The potential emissions calculations were based off of construction permit limits, AP-42 emission factors, stack test data, mass balance and engineering estimates provided by the facility. The AP-42 emission factors for SO_2, if available, were used instead of 500pmm$_v$ to provide a more realistic potential value when compared to the previous year's emissions inventory.

- **PTE Emission Values**

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	VOC	CO	Lead	Total HAPs
Potential Emissions Prior to startup of EU100								
2,126.48	2,007.62	407.46	5,050.48	5,551.94	79.62	1,799.67	0.05	111.73
Potential Emission following startup of EU100 and equipment shutdown*								
999.68	845.38	261.75	5,056.61	2,410.79	61.12	935.15	0.04	97.42
Actual Emissions 2024								
113.12	62.46	28.78	231.41	695.92	12.84	56.98	0.00	3.32

*See P.17 of Permit for a list of equipment

Table 5
CAM Required

EP	Source Description	Control Equipment
70	Unit 7 Traveling Grate Stoker Boiler	Cyclone Separator and ESP
80	Unit 8 Cyclone Boiler	ESP and Over-fire Air
90	Unit 9 Dry Bottom Tangential Fired Boiler	2 ESP; 2 Scrubbers; Over-fire Air

The draft permit contains CAM plans for emission points 70, 80, and 90. For this version of the permit, it is not necessary to note that many other emission points have CAM equivalent monitoring requirements because the provided uncontrolled PTE numbers did not make this facility subject to CAM. This is based on the current Title V application that was submitted from the facility.

New or Modified Equipment

Emission Point	Emission Unit	Description	Construction Permit
9999	9999	Facility Haul Roads	13-A-160-S6
312	319A	Silo Feeders SF-1 through SF-4 Load to LSC-1 Conveyor	93-A-286-S6
100*	100/101	Unit 10 Combustion Turbine & Duct Burner	25-A-013
101*	100	Unit 10 Combustion Turbine	25-A-014

*Construction scheduled to be completed Q2 or Q3 of 2027.

Removed Equipment

Emission Point	Emission Unit	Description	Construction Permit	Date Removed
391	391	150 Ton Dry Additive Storage Silo	13-A-341	7/16/2025

Emission Point Specific Comments

EP15 - No Changes

EP100 - 25-A-013-S1:
EP101 – Bypass 25-A-014-S1
New emission units EU100, Unit 10 Combustion Turbine with heat recovery steam generator, and EU101, Duct burner were permitted on April 7, 2025. The facility did not include these units in the Title V renewal application submitted in 2025. However, since the permits for EP100 and EP101 have been issued, they are required to be included in the permit. The construction permits were modified on 12/10/2025 to the remove fuel oil as a permitted fuel. A modification application was submitted on 3/25/2026 to include EP100 and EP101. The Acid Rain Permit Application for Unit 10 was included with the modification. Additionally, monitoring equipment specifics such as manufacturer and model have not been determined at the time of issuance. The facility stated the future equipment will meet the requirements specified by NSPS KKKK. The facility will need to update the ME-01 application forms prior to startup.

These units have not begun operation at the time of Title V permit issuance. The facility reports construction of EP100 should be completed in Q2 or Q3 of 2027. Prior to the start of operation of this equipment the emission units associated with Unit 8 shall be permanently shut down. These specific units are listed in the permit. A Title V modification will be required prior to startup of EU100.

EU100 is subject to the Acid Rain Standards and is subject to NSPS KKKK. Start of construction began Nov 25, 2024. A variance was granted for start of construction as the construction permits were not issued in 2024.

Operating conditions referencing NSPS KKKK in construction permits 25-A-013-S1 and 25-A-014-S1 were reviewed for any changes because of the recently published NSPS KKKKa. No changes were identified specific to these units.

CEMS are required to monitor NOx and CO_2 by the construction permit. The facility confirmed SO_2 compliance will be demonstrated using methods described in 40 CFR 75 appendix D . The construction permits require testing for several pollutants on regular intervals. No additional stack testing will be required by the Title V permit at this time. CAM is not required.

EP21, EP22, EP23A: No Changes. These emission points vent internally and are limited to 1295 hours of operation annually. Periodic monitoring guidance does not recommend stack testing because uncontrolled PTE does not exceed the significant source threshold. The 20% opacity limit does not require weekly monitoring because these units vent internally.

EP300: The facility confirmed the opacity testing required by 13-A-140 has not been completed. The unit has been construction but has not begun operation. Testing is required within 60 days of achieving maximum production rate and no later than one hundred eighty (180) days after the startup date of the equipment. MWP stated all coal is received through rail unloading.

EP301: No Changes. Periodic monitoring guidance does not recommend stack testing because uncontrolled PTE does not exceed the significant source threshold. Opacity monitoring is required weekly. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation. These conditions meet the requirements of a Facility O&M.

EP302: This unit is limited to operating 4950 hours per year. Weekly opacity monitoring is required.

EP310B: Limited to 5840 hours of operation per year. Weekly opacity monitoring is recommended to ensure compliance with the 20% emission limit required by NSPS Y. However, this is a fugitive emission point with the transfer point being completely enclosed. Opacity monitoring is not feasible based on the enclosed design of this transfer point. Weekly opacity monitoring is not required which is consistent with the previous renewal. The facility provided photos of 310B, 311B, 312B, and 313B.

EP311: Limited to 5840 hours of operation per year. Periodic monitoring guidance does not recommend stack testing because uncontrolled PTE does not exceed the significant source threshold. Opacity monitoring is required weekly. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column while the equipment is in operation. These conditions meet the requirements of a Facility O&M.

EP311B: Emissions were calculated using the aggregate handling sources equation 1 from AP42 13.2.4-3. Weekly opacity monitoring is recommended to ensure compliance with the 20% emission limit required by NSPS Y. However, this fugitive emission point is completely enclosed with the discharge point being located inside a silo. Opacity monitoring is not feasible based on the enclosed design of this transfer point. Weekly opacity monitoring is not required which is consistent with the previous renewal.

EP312: 319A is limited to 4000 hours. 93-A-286-S6 was modified to remove the former ChemMod Additive Transfer to LSC-1 Conveyor and eliminate the PM/PM10 tpy limit. CAM does not apply because this unit vents internally and not directly to the atmosphere. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors.

312B, 313B: No changes. Weekly opacity monitoring is recommended to ensure compliance with the 20% emission limit required by NSPS Y. However, these are fugitive emission points are completely enclosed and located within a silo building. Opacity monitoring is not feasible based on the enclosed design of this transfer point. Weekly opacity monitoring is not required which is consistent with the previous renewal.

EP314: Periodic monitoring guidance does not recommend stack testing because uncontrolled PTE does not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors. Opacity monitoring is required weekly. The differential pressure drop across the baghouse shall be maintained between 2- and 10-inches water column

while the equipment is in operation. These conditions meet the requirements of a Facility O&M. CAM does not apply.

EP320: CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors.

EP322: CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors and Webfire emission factors.

EP330: No changes. 2920 hours per year were used when calculating PTE.

EP333: CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors.

EP341: CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors.

EP351: This unit vents indoors. CAM does not apply because these units do not vent directly to the atmosphere. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors. Weekly opacity monitoring is not required for the 20% emission limit because the point vents internally.

EP360
CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Periodic monitoring does not recommend testing because precontrol emission do not exceed the major source threshold when using AP42 section 13.2.4-3 equation for aggregate handling emission factors.

EP370: These units are limited to operating 4000 hours per year. Operating conditions require a pressure drop across the baghouse to be maintained between 2 and 10 inches of water column when in operation. Weekly opacity monitoring is not required for the 20% emission limit because the point vents internally. Precontrol emission do not exceed the major source threshold on a per unit basis when using AP42 section 13.2.4-3 equation for aggregate handling emission factors. For these reasons, CAM does not apply. Stack testing will not be required during this renewal as well.

EP392, EP394: Operating conditions meet the requirements of a Facility O&M plan. Precontrol emissions do not exceed the major source threshold; therefore CAM does not apply. Testing will not be required during this renewal.

EP40 – No changes

EP41: CAM does not apply because precontrol emissions do not exceed major source threshold on a per unit basis. Facility provided calculations for precontrol PM PTE result in 6.21 tpy per unit. This value was determined using AP42 precontrol emission factors and rated capacity. The operating conditions meet the requirements of a Facility O&M and require that the pressure differential across the baghouse be maintained between 2 and 10 inches of water column. Stack testing is required by the construction permit if a certain operating scenario is met. Testing for this scenario has not been applicable to date.

EP45
Unit 45A is limited to 3650 hours per year. Six trucks are allowed per day.

EP60 – No Changes

EP70: CEMS is present for opacity, SO2, and CO. Testing is required for PM every 3 years. It was most recently completed on 8/1/2024. The next test is required by 7/30/2027. The engineering evaluation from project 24-268 states this unit is scheduled to continue to burn coal until 2028 when it will begin using natural gas. This unit is not subject to acid rain requirements because it has a generating capacity of less than 25MW. The ESP and multiclone are subject to CAM for particulate matter.

EP80
Reporting requirements A and B included in the previous renewal, required by 567 IAC 23.108(3), have been removed from the permit body because they are duplicative and covered by requirements listed in construction permit 95-A-373-P4. CEMS is present for opacity, SO2, and CO. Testing is required for PM every 3 years. It was most recently completed on 6/10/2025. The requirements of NESHAP UUUUU have been added to the permit body. This is consistent with other coal fired electric utility steam generating units in Title V permits. CAM applies to the ESP for particulate matter. This unit is required to be decommissioned prior to the startup of EU100.

EP88, EP98, EP810, EP814, EP920 , EP924,
No Changes. Precontrol emissions do not exceed the major source threshold so CAM does not apply. The operating conditions meet the requirements of a Facility O&M plan so no additional monitoring will be required by the Title V permit.

EP813 – No Changes

EP90
CEMS operates for opacity, SO2, NOx, and CO. Testing is required for PM every 3 years. PM testing was most recently completed on 06/04/2024. The requirements of NESHAP UUUUU have been added to the permit body. This is consistent with other coal fired electric utility steam generating units in Title V permits. CAM is required for PM and PM_{10} for the DESP controls.

EP919
Units 919A and 919B are limited to operating between 7am and 7pm, or 4380hr each per year. No more than 9 trucks per day can be loaded with synthetic gypsum. The amount of synthetic gypsum loaded out shall not exceed 78,840 tons per rolling 12 month period.

EP920A & EP920B
The 60 day time requirement to modify the stack from 80-A-200-S1 and 13-A-147 has passed and therefore removed. Precontrol emissions do not exceed the major source threshold so CAM does not apply. The operating conditions meet the requirements of a Facility O&M plan so no additional monitoring will be required by the Title V permit.

EP860
Limited to 10hr per day. No changes

EP7890
These are portable gasoline IC engines for non-emergency power. Operating hours of 6am to 10 pm are set by construction permit 13-A-150. These units are not subject to NESHAP ZZZZ.

EP9999
Construction permit 13-A-160-S6 was modified in 2024 to add and remove segments of the facility haul roads listed in the permit. There were no changes made to the emission limits listed in the permit.