

Iowa Department of Natural Resources DRAFT Title V Operating Permit

Name of Permitted Facility: University of Iowa

Facility Location: 105 Jessup Hall, Iowa City, Iowa 52242

Air Quality Operating Permit Number: 00-TV-002R4

Expiration Date: **DATE**

Permit Renewal Application Deadline: **DATE**

EIQ Number: 92-6571 & 92-5191

Facility File Number: 52-01-005

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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

Marnie Stein, Supervisor of Air Operating Permits Section

Date

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Abbreviations

acfm.....	actual cubic feet per minute
CFR.....	Code of Federal Regulation
CE	control equipment
CEM.....	continuous emission monitor
°F	degrees Fahrenheit
EIQ.....	emissions inventory questionnaire
EP	emission point
EU	emission unit
gr./dscf	grains per dry standard cubic foot
IAC.....	Iowa Administrative Code
IDNR.....	Iowa Department of Natural Resources
NAICS.....	North American Industry Classification System
NSPS	new source performance standard
ppmv	parts per million by volume
lb./hr	pounds per hour
lb./MMBtu	pounds per million British thermal units
SCC	Source Classification Codes
scfm.....	standard cubic feet per minute
SIC	Standard Industrial Classification
TPY	tons per year
USEPA.....	United States Environmental Protection Agency

Pollutants

PM.....	particulate matter
PM ₁₀	particulate matter ten microns or less in diameter
PM _{2.5}	particulate matter two and a half microns or less in diameter
SO ₂	sulfur dioxide
NO _x	nitrogen oxides
VOC	volatile organic compound
CO	carbon monoxide
HAP.....	hazardous air pollutant

I. Plant-Wide Conditions

Facility Name: University of Iowa

Permit Number: 00-TV-002R4

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 C.

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 (SO₂): 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"

40 CFR 60 Subpart A Requirements

This facility is an affected source and these General Provisions apply to the facility. units are listed or referenced in the 40 CFR 60 Subpart Y, Db, Dc, IIII, and JJJJ requirements sections below. See Appendix A for the link of the Standard. Applicable requirements are incorporated in the Emission Point Specific conditions.

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

40 CFR 60 Subpart Y Requirements

This facility is subject to Standards of Performance for *Coal Preparation Plants*. The affected units are EU-PP08, EU-PP09, EU-PP12, EU-PP28, EU-PP30, EU-PP31, EU-PP32, EU-PP48, EU-PP49, and EU-PP50. See Appendix A for a link to the Standard.

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

40 CFR 60 Subpart Db Requirements

This facility is subject to Standards of Performance for *Industrial Commercial Institutional Steam Generating Units*. The affected units are EU-PP03, EU-PP04, EU-PP07, and EU-PP55. See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

40 CFR 60 Subpart Dc Requirements

This facility is subject to Standards of Performance for *Small Industrial Commercial Institutional Steam Generating Units*. The affected units are EU-239-BLR-5 (Hurst Boiler #5), EU-PP43, EU-PP44, and EU-18. See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 60 Subpart Dc
567 IAC 23.1(2)"III"

40 CFR 60 Subpart IIII Requirements

The emergency generators listed in the table below are subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (40 CFR §60.4200 through 40 CFR §60.4219).

EU-003-GEN-3	EU-046-GEN-2	EU52-1	EU62-GEN-1	EU63-GEN-1
EU64-GEN-1	EU68-GEN-1	EU70-GEN-1	EU71-GEN-1	EU-072-GEN-1
EU-075-GEN-1	EU-188-GEN-1	EU-212-GEN-1	EU-239-GEN-2	EU-274-GEN-2
EU-290-GEN-1	EU-308-GEN-1	EU-374-GEN-2		

Applicable Subpart IIII requirements are incorporated into the Emission-Point Specific Conditions Section. See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

40 CFR 60 Subpart JJJJ Requirements

The emergency generators listed in the table below are subject to New Source Performance Standards (NSPS) Subpart JJJJ – Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines* (40 CFR §60.4230 through 40 CFR §60.4420).

EU-006-GEN-2	EU-037-GEN-1	EU-042-GEN-2	EU-046-GEN-3	EU51-1
EU61-GEN-1	EU-068-GEN-1	EU-072-GEN-1	EU-079-GEN-1	EU-084-GEN-1
EU-090-GEN-1	EU-106-GEN-1	EU-120-GEN-1	EU-125-GEN-1	EU-137-GEN-1
EU-149-GEN-1	EU-272-GEN-1	EU-275-GEN-1	EU-278-GEN-2	EU-391-GEN-2
EU-391-GEN-3	EU-418-GEN-2	EU-457-GEN-1		

The non-emergency generators listed in the table below are subject to New Source Performance Standards (NSPS) Subpart JJJJ – Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines* (40 CFR §60.4230 through 40 CFR §60.4420).

EU-240-GEN-1	EU-240-GEN-2	EU-PP52.1	EU-PP52.2	EU-PP52.3
EU-PP52.4				

Applicable Subpart JJJJ requirements are incorporated into the Emission-Point Specific Conditions Section. See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 50 Subpart JJJJ
567 IAC 23.1(2)"zzz"

40 CFR 63 Subpart A Requirements

This facility is an affected source and these General Provisions apply to the facility. The affected units are listed or referenced in the 40 CFR 63 Subpart GGG, ZZZZ, and DDDDD requirements sections below. See Appendix A for a link to the Standard.

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

40 CFR 63 Subpart GGG Requirements

Emissions units EU-006-TAB-1, EU-006-TAB-2, EU-006-TAB-3, EU-006-TAB-4, EU-006-TAB-5, EU-006-TAB-6, EU-006-TAB-7, and EU-106-PMPU-1 are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart GGG – *Pharmaceuticals Production* (40 CFR §63.1250 through 40 CFR §63.1261) and to NESHAP Subpart A - *General Provisions* (40 CFR §63.1 through 40 CFR §63.15). See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"

40 CFR 63 Subpart ZZZZ Requirements

With the exception of EU-PORT-GEN-1 and EU-PORT-GEN-2, all new and existing compression and spark ignition generators are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ - *Stationary Reciprocating Internal Combustion Engines* (40 CFR §63.6580 through 40 CFR §63.6675) and to NESHAP Subpart A - *General Provisions* (40 CFR §63.1 through 40 CFR §63.15). Applicable subpart ZZZZ requirements are incorporated into the Emission-Point Specific Conditions Section. See Appendix A for a link to the Standard.

Authority for Requirements: 40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

40 CFR 63 Subpart DDDDD Requirements

The boilers and water heaters in the table below are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart DDDDD – *Industrial, Commercial, and Institutional Boilers and Process Heaters* (40 CFR §63.7480 through 40 CFR §63.7575) and to NESHAP Subpart A - *General Provisions* (40 CFR §63.1 through 40 CFR §63.15). See Appendix A for a link to the Standard.

EU-055-BLR-2	EU-300-BLR-1	EU-300-BLR-2	EU-391-BLR-1	EU-391-BLR-2
EU-391-BLR-3	EU-395-BLR-1	EU-395-BLR-2	EU-395-BLR-3	EU-434-BLR-1
EU-434-BLR-2	EU-434-BLR-3	EU-441-BLR-3	EU-441-BLR-4	EU-674-BLR-1
EU-674-BLR-2B	EU-674-BLR-3	EU-OD#2	EU-OD#3	EU-OD#4
EU-239-BLR-5	EU-PP03	EU-PP04	EU-PP06	EU-PP07
EU-PP43	EU-PP44	EU-PP55	EU-18	

Authority for Requirements: 40 CFR 63 Subpart DDDDD

II. Plant-wide Applicability Limit (PAL) Requirements

PAL Permits Expiration Date: March 24, 2026

PAL Permit Renewals Application Deadline: September 24, 2025

See Appendix B for PAL regulations including PAL Reopening, PAL Renewal, PAL Expiration, and Increasing the PAL Level During the PAL Effective Period.

See 40 CFR § 52.21(aa)(2) for definitions of major, significant, and small emission units.

Plant-Wide Emission Limits (tons/yr)

The actual plant-wide emissions shall not exceed the levels specified below.

Pollutant: Particulate Matter (PM_{2.5})

Emission Limit: 85.90 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-047-PAL1 (PM_{2.5} PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Particulate Matter (PM₁₀)

Emission Limit: 97.72 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-046-PAL1 (PM₁₀ PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Particulate Matter (PM)

Emission Limit: 111.51 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-045-PAL1 (PM PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 1,602.97 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-048-PAL (SO₂ PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 751.84 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-044-PAL (NO_x PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit: 172.75 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-049-PAL (VOC PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Carbon Monoxide (CO)

Emission Limit: 444.73 tons/yr ^{(1) (2)}

Authority for Requirement: DNR Construction Permit 16-A-043-PAL1 (CO PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

- ⁽¹⁾ Per 40 CFR §52.21(aa)(4)(i)(c) and 40 CFR §52.21(aa)(7)(iv), this emission limit includes startup, shutdown, and malfunction (SSM) emissions.
- ⁽²⁾ Per 40 CFR §52.21(aa)(4)(i)(d), this emission limit includes all fugitive emissions, to the extent quantifiable, from all emission units that emit or have the potential to emit the PAL pollutant at the major stationary source.

Emission Unit Monitoring Requirements

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

Monitoring Requirements for PM, PM₁₀, and PM_{2.5}

Significant Emission Units

EP ID	EU(s) ID	EU Description	Monitoring Requirements
EP-PP06	EU-PP06	Boiler 10	Fuel usage per type ¹
EP-PP07	EU-PP07	Boiler 11	Fuel usage per type ¹

¹ Fuel usage per type is to be totaled on a daily basis. For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

Small Emission Units

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-PP03	EU-PP03	Boiler 7	Fuel usage or hours of operation
EP-PP04	EU-PP04	Boiler 8	Fuel usage or hours of operation
EP-PP27	EU-PP27	Emergency Diesel Generator #7	Hours of operation or fuel usage or kW
EP-PP08	EU-PP08	Fuel Crusher #1	Material usage or hours of operation
EP-PP09	EU-PP09	Fuel Crusher #2	Material usage or hours of operation
EP-PP10	EU-PP10	Fuel Silo #1	Material usage or hours of operation
EP-PP11	EU-PP11	Fuel Silo #2	Material usage or hours of operation
EP-PP12	EU-PP12	Fuel Silo #3	Material usage or hours of operation
EP-PP13	EU-PP13	Limestone Storage Silo	Material usage or hours of operation

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-PP14A1	EU-PP14A	Ash Silo Exhaust	Material usage or hours of operation
EP-PP14A2	EU-PP14A	Ash Truck Loading Exhaust	Material usage or hours of operation
EP-PP14B	EU-PP14B	Ash Conveying Exhaust	Material usage or hours of operation
EP-PP28	EU-PP28	Fuel Unloading Pit	Material usage
EP-PP30	EU-PP30 EU-PP31 EU-PP32	Minibunker 11 Fuel Crusher #3 Fuel Crusher #4	Material usage or hours of operation
EP-PP34	EU-PP34	Welding (PP, Hospital, Oakdale)	Hours of operation ^{4, 7}
EP-PP35	EU-PP35	Shot Blast	Hours of operation ^{4, 7}
EP-PP40	EU-PP40	Biomass Silo Dust Collector	Material usage or hours of operation
EP-PP41a Fug	EU-PP41A	Biomass Unloading	Material usage or hours of operation
EP-PP41	EU-PP41B	Biomass Conveying	Material usage or hours of operation
EP-PP43	EU-PP43	Boiler T1	Fuel usage or hours of operation
EP-PP44	EU-PP44	Boiler T2	Fuel usage or hours of operation
EP-PP45	EU-PP45	Central Vacuum System	Hours of operation ^{4, 7}
*EP-PP46	EU-PP46	Brine Tank	Material usage or hours of operation ⁷
EP-PP48	EU-PP48	South Conveyor Enclosure	Material usage or hours of operation
EP-PP49	EU-PP49	Transfer Conveyor Enclosure	Material usage or hours of operation
EP-PP50	EU-PP50	Conveyor Discharge Enclosure	Material usage or hours of operation
Fugitive	EU-PP51	Boilers T1 and T2 Brine Tank	Material usage ⁷
EP-PP52.1	EU-PP52.1	PP Engines 1	Fuel usage or hours of operation
EP-PP52.2	EU-PP52.2	PP Engines 2	Fuel usage or hours of operation
EP-PP52.3	EU-PP52.3	PP Engines 3	Fuel usage or hours of operation
EP-PP52.4	EU-PP52.4	PP Engines 4	Fuel usage or hours of operation
EP-PP53	EU-PP53	Dry Sorbent Injection Silo #1	Material usage or hours of operation
EP-PP54	EU-PP54	Dry Sorbent Injection Silo #2	Material usage or hours of operation
EP-PP55	EU-PP55	Boiler #12	Fuel usage or hours of operation
*EP-PP56	EU-PP56	East Campus Boiler #1	Fuel usage or hours of operation
Fugitive	EU-PPFUG-Coal	Fugitive emissions from Coal Trucks at Main Powerplant	VMT, average truck weight ⁷
Fugitive	EU-PPFUG-Bio	Fugitive emissions from Biomass Trucks at Main Powerplant	VMT, average truck weight ⁷
Fugitive	EU-PPFUG-Ash	Fugitive emissions from Ash Trucks at Main Powerplant	VMT, average truck weight ⁷
Fugitive	EU-PPFUG-Lime	Fugitive emissions from Lime Trucks at Main Powerplant	VMT, average truck weight ⁷
Fugitive	EU-PPFUG-OD	Fugitive emissions from Biomass Trucks at Oakdale Powerplant	VMT, average truck weight ⁷
EP-1	EU1-1	Boyd Tower Generator	Hours of operation or fuel usage or kW
EP-2	EU2-1	General Hospital Generator	Hours of operation or fuel usage or kW
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator	Hours of operation or fuel usage or kW
EP-003-5	EU-003-GEN-3	Chemistry Building Generator	Hours of operation or fuel usage or kW
*EP-4	EU4-1	Pomerantz Family Pavilion Generator	Hours of operation or fuel usage or kW
EP-5	EU5-1	J. Colloton Pavilion West Generator	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-6	EU6-1	J. Colloton Pavilion East Generator	Hours of operation or fuel usage or kW
EP-006-1 EP-006-2	EU-006-GEN-1	Pharmacy Generator	Hours of operation or fuel usage or kW
EP-006-4	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage or hours of operation ⁷
EP-006-5	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage or hours of operation ⁷
EP-006-6	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage or hours of operation ⁷
EP-006-7	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage or hours of operation ⁷
EP-7	EU7-1	John Pappajohn Pavilion Generator	Hours of operation or fuel usage or kW
EP-8	EU8-1	South Wing Generator	Hours of operation or fuel usage or kW
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	Hours of operation or fuel usage or kW
EP-013-2	EU-013-BLR-1	Athletic Learning Center Boiler 1	Fuel usage or hours of operation
EP-013-3	EU-013-BLR-2	Athletic Learning Center Boiler 2	Fuel usage or hours of operation
EP-013-4	EU-013-WH-1	Athletic Learning Center Water Heater	Fuel usage or hours of operation
EP-15	EU15-1	Boyd Tower Paint Booth	Material usage or hours of operation
*EP-17	EU17-1	Pomerantz Family Pavilion Eye Clinic Generator	Hours of operation or fuel usage or kW
EP-018-4	EU-018-GEN-3	Biology Building Generator	Hours of operation or fuel usage or kW
EP-18	EU-18	Pomerantz Family Pavilion Boiler	Hours of operation or fuel usage
*EP-19	EU19-1	Roy Carver Pavilion Generator	Hours of operation or fuel usage or kW
EP-022-1	EU-022-GEN-1	Engineering Building Generator	Hours of operation or fuel usage or kW
EP-022-2	EU-022-BEAD-1	Engineering Building Bead Blaster	Hours of operation ^{4, 7}
EP-25	EU25-1	Hospital School Generator	Hours of operation or fuel usage or kW
EP-026-2	EU-026-CT-1	UHL Cooling Tower 1	TDS ⁷
EP-026-3	EU-026-CT-2	UHL Cooling Tower 2	TDS ⁷
EP-028-1	EU-028-GEN-1	ML Generator	Hours of operation or fuel usage or kW
EP-033-1	EU-033-GEN-1	Westlawn Generator	Hours of operation or fuel usage or kW
EP-034-1	EU-034-GEN-1	MEB Generator	Hours of operation or fuel usage or kW
EP-037-1	EU-037-GEN-1	Art Building West Generator	Hours of operation or fuel usage or kW
EP-040-1	EU-040-GEN-1	Fieldhouse Generator	Hours of operation or fuel usage or kW
EP-042-3	EU-042-GEN-2	Kinnick Stadium Generator	Hours of operation or fuel usage or kW
EP-044-1	EU-044-GEN-1	Currier Hall Generator	Hours of operation or fuel usage or kW
EP-046-4	EU-046-GEN-2	IMU Generator	Hours of operation or fuel usage or kW
EP-046-5	EU-046-GEN-3	IMU Generator – Flood Mitigation	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-047-1	EU-047-FUR-1	Furnace	Hours of operation or fuel usage
EP-047-2	EU-047-WH-1	Water Heater	Hours of operation or fuel usage
*EP-48	EU48-1	ETC Generator	Hours of operation or fuel usage or kW
*EP-49	EU49-1	PFP Generator	Hours of operation or fuel usage or kW
EP-51	EU51-1	Aircare Generator	Hours of operation or fuel usage or kW
EP-52	EU52-1	IRL ACCF Generator	Hours of operation or fuel usage or kW
EP-053-1	EU-053-FUR-1	Furnace	Hours of operation or fuel usage
EP-053-1	EU-053-WH-1	Water Heater	Hours of operation or fuel usage
EP-54	EU54-BLR-1	Sports Medicine Boiler	Hours of operation or fuel usage
EP-55	EU55-WH-1	Sports Medicine Water Heater – Gas Fired	Hours of operation or fuel usage
EP-56	EU56-WH-1	Sports Medicine Water Heater – Gas Fired	Hours of operation or fuel usage
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd. Natural Gas Generator	Hours of operation or fuel usage or kW
EP-057-2	EU-057-BLR-1	2660 Crosspark Rd. Hot Water Boiler #1	Hours of operation or fuel usage
EP-057-3	EU-057-BLR-2	2660 Crosspark Rd. Hot Water Boiler #2	Hours of operation or fuel usage
EP-057-4	EU-057-BLR-3	2660 Crosspark Rd. Hot Water Boiler #3	Hours of operation or fuel usage
EP-057-5	EU-057-FUR-1	2660 Crosspark Rd. NE Rooftop Furnace	Hours of operation or fuel usage
EP-057-6	EU-057-FUR-2	2660 Crosspark Rd. NW Rooftop Furnace	Hours of operation or fuel usage
EP-58	EU58-BLR-1	IRL ACCF Boiler 1	Hours of operation or fuel usage
EP-59	EU59-BLR-1	IRL ACCF Boiler 2	Hours of operation or fuel usage
EP-61	EU61-GEN-1	ACCF Natural Gas Generator	Hours of operation or fuel usage or kW
EP-62	EU62-GEN-1	UIHC Centralized Emergency Power Generator #1	Hours of operation or fuel usage or kW
EP-63	EU63-GEN-1	UIHC Centralized Emergency Power Generator #2	Hours of operation or fuel usage or kW
EP-64	EU64-GEN-1	UIHC Centralized Emergency Power Generator #3	Hours of operation or fuel usage or kW
EP-068-1	EU-068-GEN-1	CRWC Generator	Hours of operation or fuel usage or kW
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator	Hours of operation or fuel usage or kW
EP-069-2	EU-069-FUR-1	2656 Crosspark Rd Rooftop Furnace 1	Hours of operation or fuel usage
EP-069-3	EU-069-FUR-2	2656 Crosspark Rd Rooftop Furnace 2	Hours of operation or fuel usage
EP-069-4	EU-069-FUR-3	2656 Crosspark Rd Rooftop Furnace 3	Hours of operation or fuel usage
EP-069-5	EU-069-FUR-4	2656 Crosspark Rd Rooftop Furnace 4	Hours of operation or fuel usage
EP-069-6	EU-069-FUR-5	2656 Crosspark Rd Lab Furnace	Hours of operation or fuel usage
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	Hours of operation or fuel usage or kW
EP-073-1	EU-073-GEN-1	Burge Hall Generator	Hours of operation or fuel usage or kW
EP-075-1	EU-075-GEN-1	CoPH Generator	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-076-1	EU-076-BLR-1	Environmental Services Boiler	Hours of operation or fuel usage
EP-076-1	EU-076-WH-1	Water Heater	Hours of operation or fuel usage
EP-077-1	EU-077-FUR-1	Furnace	Hours of operation or fuel usage
EP-077-1	EU-077-WH-1	Water Heater	Hours of operation or fuel usage
*EP-081-1	EU-081-WH-1	Water Heater	Hours of operation or fuel usage
EP-085-1	EU-085-FUR-1	Furnace	Hours of operation or fuel usage
EP-085-1	EU-085-WH-1	Water Heater	Hours of operation or fuel usage
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator (150 kW)	Hours of operation or fuel usage or kW
EP-090-2	EU-090-PNT-1	Woodshop Paint Booth	Hours of operation ^{4, 7}
EP-090-3	EU-090-SMELT-1	Crucible/Forge Furnaces	Fuel usage
EP-090-4	EU-090-PLASTIC-1	Ceramic Shell	Hours of operation ^{4, 7}
EP-090-5	EU-090-PNT-2	Ceramics Paint Booth	Hours of operation ^{4, 7}
EP-090-6	EU-090-MIX-1	Clay Mixers	Material usage ^{4, 7}
EP-090-7	EU-090-PNT-3	Metals Benchtop Paint Booth	Material usage ^{4, 7}
EP-090-8	EU-090-PNT-4	Printmaking Paint Booth	Material usage ^{4, 7}
EP-090-9	EU-090-PNT-5	Shared Spaces Paint Booth	Material usage ^{4, 7}
EP-090-10	EU-090-KILN-1	Geil Kiln 1	Hours of operation or fuel usage
EP-090-11	EU-090-KILN-2	Geil Kiln 2	Hours of operation or fuel usage
EP-090-12	EU-090-KILN-3	Geil Kiln 3	Hours of operation or fuel usage
EP-090-13	EU-090-KILN-4	Geil Kiln 4	Hours of operation or fuel usage
EP-090-14	EU-090-KILN-5	Geil Kiln 5	Hours of operation or fuel usage
EP-090-15	EU-090-KILN-6	Geil Kiln 6	Hours of operation or fuel usage
EP-090-16	EU-090-KILN-7	Geil Kiln 7	Hours of operation or fuel usage
EP-090-17	EU-090-KILN-8	Wood-Fired Kiln 1	Hours of operation or fuel usage ^{4, 7}
EP-090-18	EU-090-KILN-9	Wood-Fired Kiln 2	Hours of operation or fuel usage ^{4, 7}
*EP-101-1	EU-101-BLR-1	WRAC Boiler	Hours of operation or fuel usage
*EP-101-2	EU-101-WH-1	Water Heater	Hours of operation or fuel usage
EP-106-1	EU-106-GEN-1	Pharmacy Bldg Generator	Hours of operation or fuel usage or kW
EP-112-1	EU-112-GEN-1	Hillcrest Hall Generator	Hours of operation or fuel usage or kW
EP-120-1	EU-120-GEN-1	Hancher Generator	Hours of operation or fuel usage or kW
EP-120-2	EU-120-PNT-1	Hancher Paint Booth	Hours of operation or material usage ^{4, 7}
EP-123-1	EU-123-FUR-1	Furnace	Hours of operation or fuel usage
*EP-123-2	EU-123-WH-1	Water Heater	Hours of operation or fuel usage
*EP-124-1	EU-124-FUR-1	Furnace	Hours of operation or fuel usage
*EP-124-1	EU-124-WH-1	Water Heater	Hours of operation or fuel usage
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator (250 kW)	Hours of operation or fuel usage or kW
EP-132-1	EU-132-FUR-1	Furnace	Hours of operation or fuel usage
EP-155-1	EU-155-BLR-1	Cultural Center Boiler	Hours of operation or fuel usage
EP-155-1	EU-155-WH-1	Water Heater	Hours of operation or fuel usage
EP-155-2	EU-155-FUR-1	Furnace	Hours of operation or fuel usage
EP-156-1	EU-156-WH-1	Water Heater	Hours of operation or fuel usage
EP-156-1	EU-156-FUR-1	Furnace	Hours of operation or fuel usage
EP-156-2	EU-156-BLR-1	Rainbow Childcare Boiler	Hours of operation or fuel usage
EP-160-1	EU-160-RH-1	MSSB Radiant Heater	Hours of operation or fuel usage

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EP-160-2	EU-160-RH-2	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-3	EU-160-RH-3	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-4	EU-160-RH-4	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-5	EU-160-RH-5	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-6	EU-160-RH-6	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-7	EU-160-RH-7	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-8	EU-160-RH-8	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-9	EU-160-RH-9	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-10	EU-160-RH-10	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-11	EU-160-RH-11	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-12	EU-160-FUR-1	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-13	EU-160-FUR-2	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-14	EU-160-FUR-3	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-15	EU-160-FUR-4	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-16	EU-160-UH-1	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-17	EU-160-UH-2	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-18	EU-160-WH-1	MSSB Water Heater	Hours of operation or fuel usage
*EP-160-20	EU-160-PNT-1	Paint Booth at MSSB - Paints	Material usage or hours of operation
*EP-161-1	EU-161-GEN-1	University Athletic Club Generator	Hours of operation or fuel usage or kW
EP-165-1	EU-165-UH-1	HSC Unit Heater 1	Hours of operation or fuel usage
EP-165-2	EU-165-UH-2	HSC Unit Heater 2	Hours of operation or fuel usage
EP-165-3	EU-165-WH-1	Water Heater	Hours of operation or fuel usage
EP-176-1	EU-176-FUR-1	Furnace	Hours of operation or fuel usage
EP-176-1	EU-176-WH-1	Water Heater	Hours of operation or fuel usage
EP-185-2	EU-185-GEN-1	Water Plant Generator	Hours of operation or fuel usage or kW
EP-185-3	EU-185-LIME-2	North Lime Bin	Material usage or hours of operation
EP-185-4	EU-185-LIME-2	South Lime Bin	Material usage or hours of operation
Fugitive	EU-F-185-LIME-2	Lime Loading (Pneumatic)	Material usage or hours of operation
*EP-187-1	EU-187-FUR-1	Furnace	Hours of operation or fuel usage
*EP-187-2	EU-187-FUR-2	Furnace	Hours of operation or fuel usage
EP-188-1	EU-188-GEN-1	Spence Labs Generator	Hours of operation or fuel usage or kW
*EP-195-1	EU-195-FUR-1	Furnace	Hours of operation or fuel usage
EP-195-1	EU-195-WH-1	Water Heater	Hours of operation or fuel usage
*EP-199-1	EU-199-FUR-1	Furnace	Hours of operation or fuel usage
*EP-199-1	EU-199-WH-1	Water Heater	Hours of operation or fuel usage
EP-200-1	EU-200-FUR-1	Furnace	Hours of operation or fuel usage
EP-200-1	EU-200-WH-1	Water Heater	Hours of operation or fuel usage
EP-204-1	EU-204-INC-1 EU-204-INC-1A	Crematorium	Fuel usage or hours of operation
EP-204-2	EU-204-GEN-1	Bowen Science Generator	Hours of operation or fuel usage or kW
EP-212-1	EU-212-GEN-1	Emergency Generator at EPF1	Hours of operation or fuel usage or kW
EP-219-1	EU-219-FUR-1	Furnace	Hours of operation or fuel usage
EP-219-1	EU-219-WH-1	Water Heater	Hours of operation or fuel usage
EP-239-1	EU-239-BLR-5	Hurst Boiler	Fuel usage or hours of operation
EP-239-1	EU-239-GSFR-1	AgBioPower Gasifier	NA ²
EP-239-1	EU-OD#2	Oakdale Boiler #2	Fuel usage or hours of operation

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EP-239-1	EU-OD#3	Oakdale Boiler #3	Fuel usage or hours of operation
EP-239-1	EU-OD#4	Oakdale Boiler #4	Fuel usage or hours of operation
Fugitive	EU-239-BRN-1	Oakdale Brine Tank	Material usage or hours of operation ⁷
EP-239-4	EU-239-DRC-1	Hurst Boiler Biomass Fuel Unloading	Material usage or hours of operation
EP-239-5	EU-239-DRC-2	Ag Fuel Storage Bin	Material usage or hours of operation
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	Material usage or hours of operation or kW
EP-240-1	EU-240-GEN-1	OREP Engine 1	Hours of operation or fuel usage or kW
EP-240-1	EU-240-GEN-2	OREP Engine 2	Hours of operation or fuel usage or kW
EP-240-2	EU-240-CT-1	Cooling Tower 1	TDS ⁷
EP-240-3	EU-240-CT-1	Cooling Tower 2	TDS ⁷
*EP-255-1	EU-255-WH-1	Animal Care Rodent House Water Heater	Fuel usage or hours of operation
EP-272-1	EU-272-GEN-1	Spark Ignition Emergency Generator - Madison Street Residence Hall	Hours of operation or fuel usage or kW
EP-273-2	EU-273-GEN-2	Rienow Generator	Hours of operation or fuel usage or kW
EP-274-2	EU-274-GEN-2	Slater Hall Generator	Hours of operation or fuel usage or kW
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	Hours of operation or fuel usage or kW
EP-276-2	EU-276-GEN-2	Daum Hall Generator	Hours of operation or fuel usage or kW
*EP-278-1	EU-278-GEN-1	DSB Generator	Hours of operation or fuel usage or kW
EP-290-1	EU-290-GEN-1	ITF Generator	Hours of operation or fuel usage or kW
EP-300-1	EU-300-BLR-1	Jefferson Bldg. Boiler	Hours of operation or fuel usage
EP-300-2	EU-300-BLR-2	Jefferson Bldg. Boiler	Hours of operation or fuel usage
EP-300-3	EU-300-WH-1	Water Heater	Hours of operation or fuel usage
*EP-304-1	EU-304-UH-1	Unit Heater	Hours of operation or fuel usage
*EP-304-2	EU-304-UH-2	Unit Heater	Hours of operation or fuel usage
*EP-304-3	EU-304-UH-3	Unit Heater	Hours of operation or fuel usage
EP-304-4	EU-304-GEN-1	Jacobson Building Generator	Hours of operation or fuel usage or kW
EP-307-1	EU-307-FUR-1	Furnace	Hours of operation or fuel usage
EP-307-1	EU-307-FUR-2	Furnace	Hours of operation or fuel usage
EP-307-1	EU-307-WH-1	Water Heater	Hours of operation or fuel usage
EP-308-1	EU-308-GEN-1	WCCWP Generator	Hours of operation or fuel usage or kW
EP-308-2	EU-308-CT-1	WCCWP Cooling Tower 1	TDS ⁷
EP-308-3	EU-308-CT-2	WCCWP Cooling Tower 2	TDS ⁷
EP-308-4	EU-308-CT-3	WCCWP Cooling Tower 3	TDS ⁷
EP-316-1	EU-316-GEN-1	Lindquist Generator	Hours of operation or fuel usage or kW
EP-317-1	EU-317-FUR-1	Law Library Furnace	Hours of operation or fuel usage
EP-317-2	EU-317-RH-1	Law Library Radiant Heater	Hours of operation or fuel usage
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	Hours of operation or fuel usage or kW
EP-337-3	EU-337-FUR-1	Furnace	Hours of operation or fuel usage
*EP-337-4	EU-337-UH-1	Unit Heater	Hours of operation or fuel usage
EP-342-2	EU-342-FUR-1	Natural Gas Fired Forced Air Furnace	Hours of operation or fuel usage
EP-342-3	EU-342-RH-1	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-4	EU-342-RH-2	Reverber Ray Radiant Heaters	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-342-5	EU-342-RH-3	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-6	EU-342-RH-4	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-7	EU-342-RH-5	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-8	EU-342-RH-6	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-9	EU-342-RH-7	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-10	EU-342-RH-8	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-16	EU-342-RH-9	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-17	EU-342-RH-10	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-18	EU-342-RH-11	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-19	EU-342-RH-12	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-20	EU-342-RH-13	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-21	EU-342-RH-14	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-22	EU-342-RH-15	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
*EP-342-23	EU-342-RH-16	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-24	EU-342-BLR-1	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-25	EU-342-BLR-2	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-26	EU-342-BLR-3	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-27	EU-342-BLR-4	Wall Mount Boiler	Hours of operation or fuel usage
EP-347-1	EU-347-UH-1	Unit Heater	Hours of operation or fuel usage
EP-347-2	EU-347-UH-2	Unit Heater	Hours of operation or fuel usage
EP-358-1	EU-358-UH-1	Unit Heater	Hours of operation or fuel usage
EP-358-2	EU-358-UH-2	Unit Heater	Hours of operation or fuel usage
EP-358-3	EU-358-UH-3	Unit Heater	Hours of operation or fuel usage
EP-369-1	EU-369-FUR-1	Furnace	Hours of operation or fuel usage
EP-370-1	EU-370-WH-1	Iowa Geological Survey Water Heater	Hours of operation or fuel usage
*EP-372-1	EU-372-FUR-1	Heinz Road Annex Furnace	Hours of operation or fuel usage
*EP-372-2	EU-372-FUR-2	Heinz Road Annex Furnace	Hours of operation or fuel usage
EP-374-2	EU-374-GEN-2	CHA Generator	Hours of operation or fuel usage or kW
EP-377-1	EU-377-GEN-1	Boyd Law Generator	Hours of operation or fuel usage or kW
EP-379-1	EU-379-FUR-1	Forced Air Furnace	Hours of operation or fuel usage
EP-379-2	EU-379-FUR-2	Forced Air Furnace	Hours of operation or fuel usage
EP-379-3	EU-379-WH-1	Water Heater	Hours of operation or fuel usage
EP-379-4	EU-379-BLR-1	700 S Clinton Boiler	Hours of operation or fuel usage
EP-379-5	EU-379-BLR-2	700 S Clinton Boiler	Hours of operation or fuel usage
EP-382-1	EU-382-FUR-1	RPLS - Furnace	Hours of operation or fuel usage
EP-382-2	EU-382-UH-1	RPLS – Unit Heater	Hours of operation or fuel usage
EP-382-3	EU-382-UH-2	RPLS – Unit Heater	Hours of operation or fuel usage
EP-382-4	EU-382-WH-1	RPLS – Water Heater	Hours of operation or fuel usage
EP-391-1	EU-391-BLR-1	Mayflower Boiler #1	Hours of operation or fuel usage
EP-391-2	EU-391-GEN-1	Mayflower Generator	Hours of operation or fuel usage or kW
EP-391-4	EU-391-BLR-2	Mayflower Boiler #2	Hours of operation or fuel usage
EP-391-5	EU-391-BLR-3	Mayflower Boiler #3	Hours of operation or fuel usage
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator – Pump Station	Hours of operation or fuel usage or kW
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator – Dewatering Wells	Hours of operation or fuel usage or kW
EP-393-1	EU-393-UH-1	Unit Heater	Hours of operation or fuel usage

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EP-393-2	EU-393-UH-2	Unit Heater	Hours of operation or fuel usage
EP-393-4	EU-393-BLR-1	Hydraulics WT Annex 130 W Harrison St Boiler	Hours of operation or fuel usage
EP-394-1	EU-394-FUR-1	Furnace	Hours of operation or fuel usage
EP-394-1	EU-394-WH-1	Water Heater	Hours of operation or fuel usage
EP-401-1	EU-401-GEN-1	EMRB Generator	Hours of operation or fuel usage or kW
*EP-408-1	EU-408-GEN-1	Oakdale Uplink-ITS Broadcasting Generator	Hours of operation or fuel usage or kW
EP-418-1 EP-418-2	EU-418-GEN-1	IATL Generator	Hours of operation or fuel usage or kW
EP-418-4	EU-418-GEN-2	IATL Generator – Flood Mitigation	Hours of operation or fuel usage or kW
EP-420-1	EU-420-BLR-1	HWBF Boiler #1	Hours of operation or fuel usage
EP-420-2	EU-420-BLR-2	HWBF Boiler #2	Hours of operation or fuel usage
EP-420-3	EU-420-BLR-3	HWBF Boiler #3	Hours of operation or fuel usage
EP-430-1	EU-430-GEN-1	PBAB Generator	Hours of operation or fuel usage or kW
EP-434-1	EU-434-BLR-1	Hot Water Boiler	Hours of operation or fuel usage
EP-434-2	EU-434-GEN-1	Levitt Center Generator	Hours of operation or fuel usage or kW
EP-434-3	EU-434-BLR-2	Hot Water Boiler #1	Hours of operation or fuel usage
EP-434-5	EU-434-BLR-3	Hot Water Boiler #2	Hours of operation or fuel usage
*EP-434-6	EU-434-BLR-5	Levitt Center Fulton Steam Boiler	Hours of operation or fuel usage
EP-434-7	EU-434-BLR-4	Hot Water Boiler #3	Hours of operation or fuel usage
EP-434-8	EU-434-UH-1	Boiler Room Unit Heater	Hours of operation or fuel usage
EP-434-9	EU-434-WH-1	Water Heater	Hours of operation or fuel usage
EP-435-1	EU-435-GEN-1	MTF Diesel Generator (250 KW)	Hours of operation or fuel usage or kW
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 KW)	Hours of operation or fuel usage or kW
EP-436-1	EU-436-FUR-1	Furnace	Hours of operation or fuel usage
EP-436-2	EU-436-FUR-2	Furnace	Hours of operation or fuel usage
EP-436-3	EU-436-FUR-3	Furnace	Hours of operation or fuel usage
EP-436-4	EU-436-FUR-4	Furnace	Hours of operation or fuel usage
EP-436-5	EU-436-FUR-5	Furnace	Hours of operation or fuel usage
EP-436-6	EU-436-UH-6	Unit Heater	Hours of operation or fuel usage
EP-436-7	EU-436-UH-7	Unit Heater	Hours of operation or fuel usage
EP-437-1	EU-437-FUR-1	Furnace	Hours of operation or fuel usage
EP-437-1	EU-437-WH-1	Water Heater	Hours of operation or fuel usage
EP-439-1	EU-439-BLR-1	NADS Boiler #1	Hours of operation or fuel usage
EP-439-2	EU-439-BLR-2	NADS Boiler #2	Hours of operation or fuel usage
EP-439-3	EU-439-BLR-3	NADS Boiler #3	Hours of operation or fuel usage
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator	Hours of operation or fuel usage or kW
EP-440-1	EU-440-FUR-1	Hydraulics Oakdale Annex 2 Furnace #1	Hours of operation or fuel usage
EP-440-2	EU-440-FUR-2	Hydraulics Oakdale Annex 2 Furnace #2	Hours of operation or fuel usage
EP-440-3	EU-440-UH-1	Hydraulics Oakdale Annex 2 Unit Heater #1	Hours of operation or fuel usage
EP-440-4	EU-440-UH-2	Hydraulics Oakdale Annex 2 Unit Heater #2	Hours of operation or fuel usage

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EP-440-5	EU-440-UH-3	Hydraulics Oakdale Annex 2 Unit Heater #3	Hours of operation or fuel usage
EP-440-6	EU-440-UH-4	Hydraulics Oakdale Annex 2 Unit Heater #4	Hours of operation or fuel usage
EP-440-7	EU-440-UH-5	Hydraulics Oakdale Annex 2 Unit Heater #5	Hours of operation or fuel usage
EP-440-8	EU-440-UH-6	Hydraulics Oakdale Annex 2 Unit Heater #6	Hours of operation or fuel usage
EP-440-9	EU-440-UH-7	Hydraulics Oakdale Annex 2 Unit Heater #7	Hours of operation or fuel usage
EP-440-10	EU-440-UH-8	Hydraulics Oakdale Annex 2 Unit Heater #8	Hours of operation or fuel usage
EP-440-11	EU-440-UH-9	Hydraulics Oakdale Annex 2 Unit Heater #9	Hours of operation or fuel usage
EP-440-12	EU-440-UH-10	Hydraulics Oakdale Annex 2 Unit Heater #10	Hours of operation or fuel usage
EP-440-13	EU-440-UH-11	Hydraulics Oakdale Annex 2 Unit Heater #11	Hours of operation or fuel usage
EP-441-3	EU-441-FUR-1	Laundry Building Roof Furnace #1	Hours of operation or fuel usage
EP-441-4	EU-441-FUR-2	Laundry Building Roof Furnace #2	Hours of operation or fuel usage
EP-441-5	EU-441-UH-1	Laundry Building Unit Heater #1	Hours of operation or fuel usage
EP-441-6	EU-441-UH-2	Laundry Building Unit Heater #2	Hours of operation or fuel usage
EP-441-7	EU-441-UH-3	Laundry Building Unit Heater #3	Hours of operation or fuel usage
EP-441-8	EU-441-UH-4	Laundry Building Unit Heater #4	Hours of operation or fuel usage
EP-441-9	EU-441-UH-5	Laundry Building Unit Heater #5	Hours of operation or fuel usage
EP-441-10	EU-441-UH-6	Laundry Building Unit Heater #6	Hours of operation or fuel usage
EP-441-11	EU-441-UH-7	Laundry Building Unit Heater #7	Hours of operation or fuel usage
EP-441-12	EU-441-UH-8	Laundry Building Unit Heater #8	Hours of operation or fuel usage
EP-441-13	EU-441-UH-9	Laundry Building Unit Heater #9	Hours of operation or fuel usage
EP-441-14	EU-441-UH-10	Laundry Building Unit Heater #10	Hours of operation or fuel usage
EP-441-15	EU-441-UH-11	Laundry Building Unit Heater #11	Hours of operation or fuel usage
EP-441-16	EU-441-WH-12	Laundry Building Water Heater #12	Hours of operation or fuel usage
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	Hours of operation or fuel usage
EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4	Hours of operation or fuel usage
EP-446-1	EU-446-BLR-1	Hot Water Boiler	Hours of operation or fuel usage
EP-446-2	EU-446-BLR-2	Hot Water Boiler	Hours of operation or fuel usage
EP-446-3	EU-446-BLR-3	Hot Water Boiler	Hours of operation or fuel usage
EP-446-5	EU-446-GEN-1	Hall of Fame Generator	Hours of operation or fuel usage or kW
EP-447-1	EU-447-GEN-1	MEBRF Generator	Hours of operation or fuel usage or kW
EP-448-1	EU-448-GEN-1	New Biology Building Generator	Hours of operation or fuel usage or kW
EP-448-3	EU-448-WH-1	Water Heater	Hours of operation or fuel usage
EP-450-1	EU-450-GEN-1	USB Generator	Hours of operation or fuel usage or kW
EP-450-2	EU-450-BLR-1	USB Hot Water Boiler	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 3, 5, 6}
EP-450-3	EU-450-BLR-2	USB Hot Water Boiler	Hours of operation or fuel usage
EP-450-4	EU-450-WH-1	USB Water Heater	Hours of operation or fuel usage
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	Hours of operation or fuel usage or kW
EP-455-1	EU-455-GEN-1	CBRB Generator	Hours of operation or fuel usage or kW
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator	Hours of operation or fuel usage or kW
*EP-457-1	EU-457-WH-1	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
*EP-457-2	EU-457-WH-2	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
EP-457-3	EU-457-BLR-1	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-4	EU-457-BLR-2	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	Hours of operation or fuel usage or kW
EP-460-1	EU-460-FUR-1	Furnace	Hours of operation or fuel usage
EP-460-1	EU-460-WH-1	Water Heater	Hours of operation or fuel usage
*EP-461-1	EU-461-FUR-1	Furnace	Hours of operation or fuel usage
*EP-461-2	EU-461-FUR-2	Furnace	Hours of operation or fuel usage
*EP-461-3	EU-461-FUR-3	Furnace	Hours of operation or fuel usage
*EP-461-4	EU-461-FUR-4	Furnace	Hours of operation or fuel usage
EP-462-1	EU-462-WH-1	Water Heater	Hours of operation or fuel usage
EP-462-2	EU-462-FUR-1	Furnace	Hours of operation or fuel usage
EP-469-1	EU-469-FUR-1	Furnace	Hours of operation or fuel usage
EP-469-1	EU-469-WH-1	Water Heater	Hours of operation or fuel usage
EP-478-2	EU-478-BLR-2	Advanced Services Building Hot Water Boiler #1	Hours of operation or fuel usage
EP-478-3	EU-478-BLR-3	Advanced Services Building Hot Water Boiler #2	Hours of operation or fuel usage
EP-PORTGEN-1	EU-PORT-GEN-1	Portable Generator	Hours of operation or fuel usage or kW
EP-PORTGEN-2	EU-PORT-GEN-2	Portable Generator 2	Hours of operation or fuel usage or kW
Fugitive	EU-F-SALT	Salt Pile (inside)	Material usage ⁷
Fugitive	EU-F-SAND	Sand Pile (inside)	Material usage ⁷

¹ For small (10 mmbtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators and large external combustion units, in lieu of individual usage records.

² Emissions from this unit are accounted for under the Hurst Boiler, EU 239-BLR-5.

³ If hours of operation are recorded, the raw material throughput during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

⁴ The facility may assume the unit is operated at maximum capacity for 2,080 hours per year, and calculate the emissions on that basis.

⁵ The facility shall keep records of the unit's monthly material usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time

of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

⁶ If the unit's monthly material usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

⁷ For monitoring purposes, the facility shall complete required monitoring set forth in the applicable recordkeeping requirement.

Authority for Requirements: DNR Construction Permit 16-A-047-PAL1 (PM_{2.5} PAL)
DNR Construction Permit 16-A-046-PAL1 (PM₁₀ PAL)
DNR Construction Permit 16-A-045-PAL1 (PM PAL)

*These units have been removed since the updated PALs were issued December 6, 2018.

The small emission units listed below have been added at the facility since the updated PAL permits were issued December 6, 2018. Monitoring is required in accordance with the PM_{2.5}, PM₁₀, and PM PAL permits.

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 3, 4}
*EP-055-1	EU-055-BLR-1	Obermann Center Hot Water Boiler	Hours of operation or fuel usage
EP-055-2	EU-055-WH-1	Obermann Center Water Heater	Hours of operation or fuel usage
EP-055-3	EU-055-BLR-2	Obermann Center Steam Boiler #2	Hours of operation or fuel usage
*EP-063-1	EU-063-GEN-1	Bioventures Center Generator	Hours of operation or fuel usage or kW
EP-70	EU70-GEN-1	UIHC Centralized Emergency Power Generator 4	Hours of operation or fuel usage
EP-71	EU71-GEN-1	UIHC Centralized Emergency Power Generator 5	Hours of operation or fuel usage
EP-079-1	EU-079-GEN-1	Stanley Museum of Art Generator	Hours of operation or fuel usage
*EP-081-2	EU-081-BLR-1	Water Boiler (Faculty Art Studios)	Hours of operation or fuel usage
EP-084-1	EU-084-GEN-1	Health Sciences Academic Building NG Emergency Generator, Caterpillar Model DG500	Hours of operation or fuel usage
EP-106-2	EU-106-PMPU-1	Pharmaceutical Manufacturing Process unit	Material usage or hours of operation
EP-123-3	EU-123-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-2	EU-132-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-3	EU-132-UH-1	Unit Heater	Hours of operation or fuel usage
EP-132-4	EU-132-UH-2	Unit Heater	Hours of operation or fuel usage
EP-137-1	EU-137-GEN-1	HRDP NG Emergency Generator	Hours of operation or fuel usage
EP-149-1	EU-149-GEN-1	GFWC Emergency NG Generator	Hours of operation or fuel usage
EP-160-19	EU-160-UH-3	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-21	EU-160-UH-4	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-22	EU-160-FUR-5	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-23	EU-160-FUR-6	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-24	EU-160-FUR-7	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-25	EU-160-FUR-8	MSSB Rooftop Furnace	Hours of operation or fuel usage

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 3, 4}
EP-160-26	EU-160-FUR-9	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-27	EU-160-FUR-10	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-185-3	EU-185-LIME-2	North Lime Bin	Hours of operation or fuel usage
EP-185-4	EU-185-LIME-3	South Lime Bin	Hours of operation or fuel usage
EP-186-1	EP-186-UH-1	Unit Heater	Hours of operation or fuel usage
EP-186-2	EP-186-UH-2	Unit Heater	Hours of operation or fuel usage
EP-186-3	EP-186-UH-3	Unit Heater	Hours of operation or fuel usage
EP-186-4	EP-186-UH-4	Unit Heater	Hours of operation or fuel usage
EP-186-5	EP-186-UH-5	Unit Heater	Hours of operation or fuel usage
EP-186-6	EP-186-UH-6	Unit Heater	Hours of operation or fuel usage
*EP-187-3	EU-187-WH-1	Water Heater	Hours of operation or fuel usage
EP-234-1	EU-234-FUR-1	Oakdale Studio Facility Furnace	Hours of operation or fuel usage
EP-240-4	EU-240-CT-3	Cooling Tower 3	Hours of operation or fuel usage
EP-278-2	EU-278-GEN-2	DSB Natural Gas 300 kW Generator	Hours of operation or fuel usage
EP-280-1	EU-280-FUR-1	Nagle Family Clubhouse Renew Daikin Furnace	Hours of operation or fuel usage
EP-280-2	EU-280-FUR-2	Nagle Family Clubhouse Renew Air Furnace	Hours of operation or fuel usage
EP-280-3	EU-280-UH-1	Nagle Family Clubhouse Golf Cart Storage Unit Heater	Hours of operation or fuel usage
EP-280-4	EU-280-UH-2	Nagle Family Clubhouse Basement Unit Heater	Hours of operation or fuel usage
EP-280-5	EU-280-UH-3	Nagle Family Clubhouse Renew Unit Heater	Hours of operation or fuel usage
EP-280-6	EU-280-WH-1	Nagle Family Clubhouse Renew Water Heater	Hours of operation or fuel usage
EP-280-7	EU-280-WH-2	Nagle Family Clubhouse Renew Water Heater	Hours of operation or fuel usage
EP-317-3	EU-317-FUR-2	ITDC Furnace and AC	Hours of operation or fuel usage
EP-317-4	EU-317-FUR-3	ITDC Furnace and AC	Hours of operation or fuel usage
EP-337-5	EU-337-UH-2	Unit Heater	Hours of operation or fuel usage
EP-337-6	EU-337-UH-3	Unit Heater	Hours of operation or fuel usage
EP-347-3	EU-347-UH-3	Unit Heater	Hours of operation or fuel usage
EP-347-4	EU-347-UH-4	Unit Heater	Hours of operation or fuel usage
EP-358-4	EU-358-UH-4	Unit Heater	Hours of operation or fuel usage
EP-373-1	EU-373-PNT-1	HA1 Paint Booth	Material usage or hours of operation
EP-393-5	EU-393-UH-3	Unit Heater	Hours of operation or fuel usage
EP-395-1	EU-395-BLR-1	Hansen Football Performance Center Boiler #1	Hours of operation or fuel usage
EP-395-2	EU-395-BLR-2	Hansen Football Performance Center Boiler #2	Hours of operation or fuel usage
EP-395-3	EU-395-BLR-3	Hansen Football Performance Center Boiler #3	Hours of operation or fuel usage
EP-422-1	EU-422-CT-1	Chilled Water Plant 4 Cooling Tower	TDS ⁷
EP-435-3	EU-435-FUR-1	MTF Furnace	Hours of operation or fuel usage
EP-435-4	EU-435-FUR-2	MTF Furnace	Hours of operation or fuel usage

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 3, 4}
EP-435-5	EU-435-FUR-3	MTF Furnace	Hours of operation or fuel usage
EP-435-6	EU-435-FUR-4	MTF Furnace	Hours of operation or fuel usage
EP-435-7	EU-435-FUR-5	MTF Furnace	Hours of operation or fuel usage
EP-435-8	EU-435-FUR-6	MTF Furnace	Hours of operation or fuel usage
EP-435-9	EU-435-FUR-7	MTF Furnace	Hours of operation or fuel usage
EP-435-10	EU-435-FUR-8	MTF Furnace	Hours of operation or fuel usage
EP-435-11	EU-435-FUR-9	MTF Furnace	Hours of operation or fuel usage
EP-435-12	EU-435-FUR-10	MTF Furnace	Hours of operation or fuel usage
EP-435-13	EU-435-UH-1	MTF Unit Heater	Hours of operation or fuel usage
EP-436-6	EU-436-FUR-6	Furnace	Hours of operation or fuel usage
EP-436-7	EU-436-FUR-7	Furnace	Hours of operation or fuel usage
EP-436-8	EU-436-FUR-8	Furnace	Hours of operation or fuel usage
EP-436-9	EU-436-FUR-9	Furnace	Hours of operation or fuel usage
EP-436-10	EU-436-UH-1	Unit Heater	Hours of operation or fuel usage
EP-436-11	EU-436-UH-2	Unit Heater	Hours of operation or fuel usage
EP-436-12	EU-436-UH-3	Unit Heater	Hours of operation or fuel usage
EP-436-13	EU-436-UH-4	Unit Heater	Hours of operation or fuel usage
EP-436-14	EU-436-UH-5	Unit Heater	Hours of operation or fuel usage
EP-436-17	EU-436-UH-8	Unit Heater	Hours of operation or fuel usage
EP-441-19	EU-441-FUR-3	Laundry Building Roof Furnace #3 New Addition	Hours of operation or fuel usage
EP-457-5	EU-457-WH-3	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
EP-457-6	EU-457-BLR-3	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-7	EU-457-BLR-4	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-8	EU-457-BLR-5	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-9	EU-457-WH-4	Hawkeye Tennis Water Heater #4 (HTRC DWH-1)	Hours of operation or fuel usage
EP-457-10	EU-457-GEN-1	HTRC Emergency Generator	Hours of operation or fuel usage
EP-674-1	EU-674-BLR-1	Boiler 1 NG and Fuel Oil 22.1 MMBtu/hr	Hours of operation or fuel usage
	EU-674-BLR-2B	Boiler 2B NG and Fuel Oil 10 MMBtu/hr	
	EU-674-BLR-3	Boiler 3 NG and Fuel Oil 10 MMBtu/hr	
EP-674-4	EU-674-GEN-1	Emergency Diesel Generator West 600 kW	Hours of operation or fuel usage
EP-674-5	EU-674-GEN-2	Emergency Diesel Generator East 800 kW	Hours of operation or fuel usage
EP-674-8	EU-674-CT-1	Cooling Tower #1	Hours of operation or fuel usage
EP-674-9	EU-674-CT-2	Cooling Tower #2	Hours of operation or fuel usage
EP-674-10	EU-674-CT-3	Cooling Tower #3	Hours of operation or fuel usage
EP-674-11	EU-674-CT-4	Cooling Tower #4	Hours of operation or fuel usage
EP-674-12	EU-674-CT-5	Cooling Towner #5	Hours of operation or fuel usage

¹ For small (10 mmbtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators and large external combustion units, in lieu of individual usage records.

² If hours of operation are recorded, the raw material throughput during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

³ The facility shall keep records of the unit's monthly material usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

⁴ If the unit's monthly material usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

Authority for Requirements: 567 IAC 24.108(14)

Monitoring Requirements for VOC

Small Emission Units

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-PP03	EU-PP03	Boiler 7	Fuel usage or hours of operation
EP-PP04	EU-PP04	Boiler 8	Fuel usage or hours of operation
EP-PP06	EU-PP06	Boiler 10	Fuel usage or hours of operation
EP-PP07	EU-PP07	Boiler 11	Fuel usage or hours of operation
EP-PP27	EU-PP27	Emergency Diesel Generator #7	Fuel usage or hours of operation or kW
EP-PP33	EU-PP33	Parts Washer	Material usage ³
*EP-PP36F-1	EU-PP36F-2	Antifreeze Tank	Material usage ³
EP-PP36F-2	EU-PP36F-3	Antifreeze Tank	Material usage ³
EP-PP39	EU-PP39	Diesel Generator #2 Fuel Tank - #1	Material usage ³
EP-PP39a	EU-PP39a	Diesel Generator #2 Fuel Tank - #2	Material usage ³
EP-PP43-1	EU-PP43-1	Parts Washer	Material usage ³
EP-PP43	EU-PP43	Boiler T1	Fuel usage or hours of operation
EP-PP44-1	EU-PP44-1	Parts Washer	Material usage ³
EP-PP44	EU-PP44	Boiler T2	Fuel usage or hours of operation
*EP-PP47	EU-PP47	Parts Washer	Material usage ³
EP-PP52.1	EU-PP52.1	PP Engines 1	Fuel usage or hours of operation or kW
EP-PP52.2	EU-PP52.2	PP Engines 1	Fuel usage or hours of operation or kW
EP-PP52.3	EU-PP52.3	PP Engines 1	Fuel usage or hours of operation or kW
EP-PP52.4	EU-PP52.4	PP Engines 1	Fuel usage or hours of operation or kW
EP-1	EU1-1	Boyd Tower Generator	Fuel usage or hours of operation or kW
EP-2	EU2-1	General Hospital Generator	Fuel usage or hours of operation or kW
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator	Fuel usage or hours of operation or kW
EP-003-5	EU-003-GEN-3	Chemistry Building Generator	Fuel usage or hours of operation or kW
EP-003-2	EU-003-AST-3	Chemistry Generator Fuel Tank	Material usage ³
Fugitive	EU-F-003-PTW-1	Parts Washer-Chem/Safety Kleen	Material usage ³
*EP-4	EU4-1	Pomerantz Family Pavilion Generator	Fuel usage or hours of operation or kW
EP-5	EU5-1	J. Colloton Pavilion West Generator	Fuel usage or hours of operation or kW
EP-6	EU6-1	J. Colloton Pavilion East Generator	Fuel usage or hours of operation or kW
EP-006-1 EP-006-2	EU-006-GEN-1	Pharmacy Generator	Fuel usage or hours of operation or kW
EP-006-4	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage ³
EP-006-5	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage ³
EP-006-6	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage ³
EP-006-7	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms 44C, 32A, 32H, 32C, 32F, 41B and 42E	Material usage ³
EP-7	EU7-1	John Pappajohn Pavilion Generator	Fuel usage or hours of operation or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-8	EU8-1	South Wing Generator	Fuel usage or hours of operation or kW
EP-11	EU11-UST-1	Jet Fuel Tank	Material usage ⁴
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	Fuel usage or hours of operation or kW
*EP-14	EU14-1	JCP Sterilizing Services	Material usage ³
EP-15	EU15-1	Boyd Tower Paint Booth	Material usage ³
*EP-17	EU17-1	Pomerantz Family Pavilion Eye Clinic Generator	Fuel usage or hours of operation or kW
EP-018-4	EU-018-GEN-3	Biology Building Generator	Fuel usage or hours of operation or kW
EP-18	EU-18	Pomerantz Family Pavilion Boiler	Fuel usage or hours of operation
*EP-19	EU19-1	Roy Carver Pavilion Generator	Fuel usage or hours of operation or kW
EP-21	EU21-1	Colloton Pavilion East Fuel Tank	Material usage ³
EP-022-1	EU-022-GEN-1	Engineering Building Generator	Fuel usage or hours of operation or kW
EP-022-5	EU-022-AST-1	Engineering Building Generator Fuel Tank	Material usage ³
EP-22	EU22-1	Pappajohn Pavilion Fuel Tank	Material usage ³
EP-23	EU23-UST-1	RCP Fuel Tank	Material usage ³
EP-24	EU24-UST-1	PFP Fuel Tank	Material usage ³
EP-25	EU25-1	Hospital School Generator	Fuel usage or hours of operation or kW
EP-028-1	EU-028-GEN-1	ML Generator	Fuel usage or hours of operation or kW
EP-033-1	EU-033-GEN-1	Westlawn Generator	Fuel usage or hours of operation or kW
EP-034-1	EU-034-GEN-1	MEB Generator	Fuel usage or hours of operation or kW
EP-037-1	EU-037-GEN-1	Art Building West Generator	Fuel usage or hours of operation or kW
EP-040-1	EU-040-GEN-1	Fieldhouse Generator	Fuel usage or hours of operation or kW
*EP-042-1	EU-042-GEN-1	Kinnick Stadium Generator	Fuel usage or hours of operation or kW
*EP-042-2	EU-042-AST-1	Kinnick Generator Fuel Tank	Material usage ³
EP-43	EU43-UST-1	Boyd Tower Tank (10,000 gal, Diesel)	Material usage ³
EP-044-1	EU-044-GEN-1	Currier Hall Generator	Fuel usage or hours of operation or kW
EP-046-4	EU-046-GEN-2	IMU Generator	Fuel usage or hours of operation or kW
EP-046-6	EU-046-AST-2	IMU Generator Fuel Tank	Material usage ³
EP-046-5	EU-046-GEN-3	IMU Generator – Flood Mitigation	Fuel usage or hours of operation or kW
EP-047-1	EU-047-FUR-1	Furnace	Fuel usage or hours of operation
EP-047-2	EU-047-WH-1	Water Heater	Fuel usage or hours of operation
*EP-48	EU48-1	ETC Generator	Fuel usage or hours of operation or kW
*EP-49	EU49-1	PFP Generator	Fuel usage or hours of operation or kW
EP-51	EU51-1	Aircare Generator	Fuel usage or hours of operation or kW
EP-52	EU52-1	IRL ACCF Generator	Fuel usage or hours of operation or kW
EP-053-1	EU-053-FUR-1	Furnace	Fuel usage or hours of operation
EP-053-1	EU-053-WH-1	Water Heater	Fuel usage or hours of operation
EP-53	EU53-AST-1	IRL ACCF Generator Fuel Tank	Material usage ³
EP-54	EU54-BLR-1	Sports Medicine Boiler	Fuel usage or hours of operation
EP-55	EU55-WH-1	Sports Medicine Water Heater – Gas Fired	Fuel usage or hours of operation
EP-56	EU56-WH-1	Sports Medicine Water Heater – Gas Fired	Fuel usage or hours of operation
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd. Natural Gas Generator	Fuel usage or hours of operation or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-057-2	EU-057-BLR-1	2660 Crosspark Rd. Hot Water Boiler #1	Fuel usage or hours of operation
EP-057-3	EU-057-BLR-2	2660 Crosspark Rd. Hot Water Boiler #2	Fuel usage or hours of operation
EP-057-4	EU-057-BLR-3	2660 Crosspark Rd. Hot Water Boiler #3	Fuel usage or hours of operation
EP-057-5	EU-057-FUR-1	2660 Crosspark Rd. NE Rooftop Furnace	Fuel usage or hours of operation
EP-057-6	EU-057-FUR-2	2660 Crosspark Rd. NW Rooftop Furnace	Fuel usage or hours of operation
EP-57	EU57-AST-1	Aircare Hanger Jet Fuel Tank	Material usage ³
EP-58	EU58-BLR-1	IRL ACCF Boiler 1	Fuel usage or hours of operation
EP-59	EU59-BLR-1	IRL ACCF Boiler 2	Fuel usage or hours of operation
EP-60	EU60-UST-1	JCPW Fuel Tank	Material usage ³
EP-61	EU61-GEN-1	ACCF Natural Gas Generator	Fuel usage or hours of operation or kW
EP-62	EU62-GEN-1	UIHC Centralized Emergency Power Generator #1	Fuel usage or hours of operation or kW
EP-63	EU63-GEN-1	UIHC Centralized Emergency Power Generator #2	Fuel usage or hours of operation or kW
EP-64	EU64-GEN-1	UIHC Centralized Emergency Power Generator #3	Fuel usage or hours of operation or kW
EP-65	EU65-UST-1	UIHC Centralized Emergency Power Generator #1 Fuel Tank	Material usage ³
EP-66	EU66-UST-1	UIHC Centralized Emergency Power Generator #2 Fuel Tank	Material usage ³
EP-67	EU67-UST-1	UIHC Centralized Emergency Power Generator #3 Fuel Tank	Material usage ³
EP-068-1	EU-068-GEN-1	CRWC Generator	Fuel usage or hours of operation or kW
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator	Fuel usage or hours of operation or kW
EP-069-2	EU-069-FUR-1	2656 Crosspark Rd Rooftop Furnace 1	Fuel usage or hours of operation
EP-069-3	EU-069-FUR-2	2656 Crosspark Rd Rooftop Furnace 2	Fuel usage or hours of operation
EP-069-4	EU-069-FUR-3	2656 Crosspark Rd Rooftop Furnace 3	Fuel usage or hours of operation
EP-069-5	EU-069-FUR-4	2656 Crosspark Rd Rooftop Furnace 4	Fuel usage or hours of operation
EP-069-6	EU-069-FUR-5	2656 Crosspark Rd Lab Furnace	Fuel usage or hours of operation
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	Fuel usage or hours of operation or kW
EP-073-1	EU-073-GEN-1	Burge Hall Generator	Fuel usage or hours of operation or kW
EP-075-1	EU-075-GEN-1	CoPH Generator	Fuel usage or hours of operation or kW
EP-075-2	EU-075-AST-1	CoPH Generator Fuel Tank	Material usage ³
EP-076-1	EU-076-BLR-1	Environmental Services Boiler	Fuel usage or hours of operation
EP-076-1	EU-076-WH-1	Water Heater	Fuel usage or hours of operation
EP-077-1	EU-077-FUR-1	Furnace	Fuel usage or hours of operation
EP-077-1	EU-077-WH-1	Water Heater	Fuel usage or hours of operation
*EP-081-1	EU-081-WH-1	Water Heater	Fuel usage or hours of operation

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-085-1	EU-085-FUR-1	Furnace	Fuel usage or hours of operation
EP-085-1	EU-085-WH-1	Water Heater	Fuel usage or hours of operation
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator (150 kW)	Fuel usage or hours of operation or kW
*EP-101-1	EU-101-BLR-1	WRAC Boiler	Fuel usage or hours of operation
*EP-101-2	EU-101-WH-1	Water Heater	Fuel usage or hours of operation
EP-112-1	EU-112-GEN-1	Hillcrest Hall Generator	Fuel usage or hours of operation or kW
EP-120-1	EU-120-GEN-1	Hancher Generator	Fuel usage or hours of operation or kW
EP-123-1	EU-123-FUR-1	Furnace	Fuel usage or hours of operation
*EP-123-2	EU-123-WH-1	Water Heater	Fuel usage or hours of operation
*EP-124-1	EU-124-FUR-1	Furnace	Fuel usage or hours of operation
*EP-124-1	EU-124-WH-1	Water Heater	Fuel usage or hours of operation
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator (250 kW)	Fuel usage or hours of operation or kW
EP-132-1	EU-132-FUR-1	Furnace	Fuel usage or hours of operation
EP-155-1	EU-155-BLR-1	Cultural Center Boiler	Fuel usage or hours of operation
EP-155-1	EU-155-WH-1	Water Heater	Fuel usage or hours of operation
EP-155-2	EU-155-FUR-1	Furnace	Fuel usage or hours of operation
EP-156-2	EU-156-BLR-1	Rainbow Childcare Boiler	Fuel usage or hours of operation
EP-156-1	EU-156-WH-1	Water Heater	Fuel usage or hours of operation
EP-156-1	EU-156-FUR-1	Furnace	Fuel usage or hours of operation
EP-160-12	EU-160-FUR-1	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-13	EU-160-FUR-2	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-14	EU-160-FUR-3	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-15	EU-160-FUR-4	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-1	EU-160-RH-1	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-2	EU-160-RH-2	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-3	EU-160-RH-3	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-4	EU-160-RH-4	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-5	EU-160-RH-5	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-6	EU-160-RH-6	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-7	EU-160-RH-7	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-8	EU-160-RH-8	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-9	EU-160-RH-9	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-10	EU-160-RH-10	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-11	EU-160-RH-11	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-16	EU-160-UH-1	MSSB Unit Heater	Fuel usage or hours of operation
EP-160-17	EU-160-UH-2	MSSB Unit Heater	Fuel usage or hours of operation
EP-160-18	EU-160-WH-1	MSSB Water Heater	Fuel usage or hours of operation
*EP-160-20	EU-160-PNT-1	Paint Booth at MSSB	Material usage ³
*EP-161-1	EU-161-GEN-1	University Athletic Club Generator	Fuel usage or hours of operation or kW
EP-165-1	EU-165-UH-1	HSC Gas Unit Heater 1	Fuel usage or hours of operation
EP-165-2	EU-165-UH-2	HSC Gas Unit Heater 2	Fuel usage or hours of operation
EP-165-3	EU-165-WH-1	Water Heater	Fuel usage or hours of operation
EP-176-1	EU-176-FUR-1	Furnace	Fuel usage or hours of operation
EP-176-1	EU-176-WH-1	Water Heater	Fuel usage or hours of operation
EP-185-5	EU-185-AST-1	Water Plant Generator Fuel Tank	Material usage ³

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EP-185-2	EU-185-GEN-1	Water Plant Generator	Fuel usage or hours of operation or kW
EP-187-1	EU-187-FUR-1	Furnace	Fuel usage or hours of operation
EP-187-2	EU-187-FUR-2	Furnace	Fuel usage or hours of operation
EP-188-1	EU-188-GEN-1	Spence Labs Generator	Fuel usage or hours of operation or kW
EP-188-2	EU-188-AST-1	Spence Labs Tank	Material usage ³
*EP-195-1	EU-195-FUR-1	Furnace	Fuel usage or hours of operation
EP-195-1	EU-195-WH-1	Water Heater	Fuel usage or hours of operation
*EP-199-1	EU-199-FUR-1	Furnace	Fuel usage or hours of operation
*EP-199-1	EU-199-WH-1	Water Heater	Fuel usage or hours of operation
EP-200-1	EU-200-FUR-1	Furnace	Fuel usage or hours of operation
EP-200-1	EU-200-WH-1	Water Heater	Fuel usage or hours of operation
EP-204-1	EU-204-INC-1 EU-204-INC-1A	Crematorium	Hours of operation or fuel usage
EP-204-2	EU-204-GEN-1	Bowen Science Generator	Fuel usage or hours of operation or kW
EP-204-3	EU-204-AST-1	Bowen Science Building Fuel Tank	Material usage ³
EP-212-1	EU-212-GEN-1	Emergency Generator at EPF1	Fuel usage or hours of operation or kW
EP-212-2	EU-212-AST-1	EPF1 Generator Diesel AST	Material usage ³
EP-219-1	EU-219-FUR-1	Furnace	Fuel usage or hours of operation
EP-219-1	EU-219-WH-1	Water Heater	Fuel usage or hours of operation
EP-239-1	EU-239-BLR-5	Hurst Boiler	Hours of operation or Fuel usage
EP-239-1	EU-239-GSFR-1	AgBioPower Gasifier	Fuel usage ⁶
EP-239-1	EU-OD#2	Oakdale Boiler #2	Fuel usage or hours of operation
EP-239-1	EU-OD#3	Oakdale Boiler #3	Fuel usage or hours of operation
EP-239-1	EU-OD#4	Oakdale Boiler #4	Fuel usage or hours of operation
EP-239-2	EU-239-WASH-1	Oakdale Parts Washer	Material usage ³
*EP-239-4	EU-239-TANK-1	OREP Diesel Generator Tank	Material usage ³
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	Fuel usage or hours of operation or kW
EP-239-7	EU-239-TANK-2	1500 kW Emergency Generator Tank	Material Usage ³
EP-240-1	EU-240-GEN-1	OREP Engine 1	Fuel usage or hours of operation or kW
EP-240-1	EU-240-GEN-2	OREP Engine 2	Fuel usage or hours of operation or kW
EP-241-5 EP-241-6	EU-241-CT-1	Walk-in Fume Hood	Material usage ³
EP-241-5 EP-241-6	EU-241-CT-2	Walk-in Fume Hood	Material usage ³
EP-241-5 EP-241-6	EU-241-CT-3	Walk-in Fume Hood	Material usage ³
EP-241-5 EP-241-6	EU-241-CT-4	Walk-in Fume Hood	Material usage ³
EP-241-3	EU-241-N-1	Waste Storage Facility - Neutralization	Material usage ³
EP-241-4	EU-241-N-2	Waste Storage Facility - Neutralization	Material usage ³
EP-241-1	EU-241-ST-1	Waste Storage Facility – Sorting Table	Material usage ³
EP-241-2	EU-241-VU-1	Waste Storage Facility – Vyleater Unit	Material usage ³

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Fugitive	EU-F-241-EMF	EMF – Oakdale Storage	Material usage ³
*EP-255-1	EU-255-WH-1	Animal Care Rodent House Water Heater	Fuel usage or hours of operation or kW
EP-272-1	EU-272-GEN-1	Spark Ignition Emergency Generator – Madison Street Residence Hall	Fuel usage or hours of operation or kW
EP-273-2	EU-273-GEN-2	Rienow Generator	Fuel usage or hours of operation or kW
EP-274-2	EU-274-GEN-2	Slater Hall Generator	Fuel usage or hours of operation or kW
EP-274-3	EU-274-AST-1	Slater Hall Fuel Tank	Material usage ³
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	Fuel usage or hours of operation or kW
EP-276-2	EU-276-GEN-2	Daum Hall Generator	Fuel usage or hours of operation or kW
*EP-278-1	EU-278-GEN-1	DSB Generator	Fuel usage or hours of operation or kW
*Fugitive	EU-F-278-PTW-1	Parts Washer – DSB Building	Material usage ³
EP-290-1	EU-290-GEN-1	ITF Generator	Fuel usage or hours of operation or kW
EP-290-2	EU-290-AST-1	ITC Day Tank	Material usage ³
EP-290-3	EU-290-UST-1	ITC 15,000 gallon UST	Material usage ³
EP-300-3	EU-300-WH-1	Water Heater	Fuel usage or hours of operation
EP-300-1	EU-300-BLR-1	Jefferson Bldg. Boiler	Fuel usage or hours of operation
EP-300-2	EU-300-BLR-2	Jefferson Bldg. Boiler	Fuel usage or hours of operation
*EP-304-1	EU-304-UH-1	Unit Heater	Fuel usage or hours of operation
*EP-304-2	EU-304-UH-2	Unit Heater	Fuel usage or hours of operation
*EP-304-3	EU-304-UH-3	Unit Heater	Fuel usage or hours of operation
EP-304-4	EU-304-GEN-1	Jacobson Building Generator	Fuel usage or hours of operation or kW
EP-307-1	EU-307-FUR-1	Furnace	Fuel usage or hours of operation
EP-307-1	EU-307-FUR-2	Furnace	Fuel usage or hours of operation
EP-307-1	EU-307-WH-1	Water Heater	Fuel usage or hours of operation
EP-308-1	EU-308-GEN-1	WCCWP Generator	Fuel usage or hours of operation or kW
EP-308-2	EU-308-CT-1	WCCWP Cooling Tower 1	Material usage ³
EP-308-3	EU-308-CT-2	WCCWP Cooling Tower 2	Material usage ³
EP-316-1	EU-316-GEN-1	Lindquist Generator	Fuel usage or hours of operation or kW
EP-317-1	EU-317-FUR-1	ITDC Furnace	Fuel usage or hours of operation
EP-317-2	EU-317-RH-1	ITDC Radiant Heater	Fuel usage or hours of operation
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	Fuel usage or hours of operation or kW
EP-337-3	EU-337-FUR-1	Furnace	Fuel usage or hours of operation
*EP-337-4	EU-337-UH-1	Unit Heater	Fuel usage or hours of operation
EP-337-1	EU-337-AST-1	Gasoline Tank	Material usage ³
EP-337-2	EU-337-AST-2	Diesel Tank	Material usage ³
EP-342-2	EU-342-FUR-1	Natural Gas Fired Forced Air Furnace	Fuel usage or hours of operation
EP-342-3	EU-342-RH-1	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-4	EU-342-RH-2	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-5	EU-342-RH-3	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-6	EU-342-RH-4	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-7	EU-342-RH-5	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-8	EU-342-RH-6	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-9	EU-342-RH-7	Reverber Ray Radiant Heaters	Fuel usage or hours of operation

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-342-10	EU-342-RH-8	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-16	EU-342-RH-9	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-17	EU-342-RH-10	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-18	EU-342-RH-11	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-19	EU-342-RH-12	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-20	EU-342-RH-13	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-21	EU-342-RH-14	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-22	EU-342-RH-15	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
*EP-342-23	EU-342-RH-16	Reverber Ray Radiant Heaters	Fuel usage or hours of operation
EP-342-24	EU-342-BLR-1	Wall Mount Boiler	Fuel usage or hours of operation
EP-342-25	EU-342-BLR-2	Wall Mount Boiler	Fuel usage or hours of operation
EP-342-26	EU-342-BLR-3	Wall Mount Boiler	Fuel usage or hours of operation
EP-342-27	EU-342-BLR-4	Wall Mount Boiler	Fuel usage or hours of operation
EP-342-11	EU-342-AST-1	Used Oil Tank	Material usage ³
EP-342-12	EU-342-UST-1	Fleet Services Gasoline UST	Material usage ³
EP-342-13	EU-342-UST-2	Fleet Services Ethanol UST	Material usage ³
EP-342-15	EU-342-UST-3	Fleet Services Diesel UST	Material usage ³
EP-342-14	EU-342-UST-4	Fleet Services Cambus Diesel UST	Material usage ³
*Fugitive	EU-F-342-PTW-1	Parts Washer – Campus Garage	Material usage ³
EP-347-1	EU-347-UH-1	Unit Heater	Fuel usage or hours of operation
EP-347-2	EU-347-UH-2	Unit Heater	Fuel usage or hours of operation
EP-358-1	EU-358-UH-1	Unit Heater	Fuel usage or hours of operation
EP-358-2	EU-358-UH-2	Unit Heater	Fuel usage or hours of operation
EP-358-3	EU-358-UH-3	Unit Heater	Fuel usage or hours of operation
EP-369-1	EU-369-FUR-1	Furnace	Fuel usage or hours of operation
EP-370-1	EU-370-WH-1	Iowa Geological Survey Water Heater	Fuel usage or hours of operation
*EP-372-1	EU-372-FUR-1	Heinz Road Annex Furnace	Fuel usage or hours of operation
*EP-372-2	EU-372-FUR-2	Heinz Road Annex Furnace	Fuel usage or hours of operation
EP-374-2	EU-374-GEN-2	CHA Generator	Fuel usage or hours of operation or kW
EP-377-1	EU-377-GEN-1	Boyd Law Generator	Fuel usage or hours of operation or kW
EP-379-1	EU-379-FUR-1	Forced Air Furnace	Fuel usage or hours of operation
EP-379-2	EU-379-FUR-2	Forced Air Furnace	Fuel usage or hours of operation
EP-379-3	EU-379-WH-1	Water Heater	Fuel usage or hours of operation
EP-379-4	EU-379-BLR-1	700 S Clinton Boiler	Fuel usage or hours of operation
EP-379-5	EU-379-BLR-2	700 S Clinton Boiler	Fuel usage or hours of operation
EP-382-1	EU-382-FUR-1	RPLS - Furnace	Fuel usage or hours of operation
EP-382-2	EU-382-UH-1	RPLS – Unit Heater	Fuel usage or hours of operation
EP-382-3	EU-382-UH-2	RPLS – Unit Heater	Fuel usage or hours of operation
EP-382-4	EU-382-WH-1	RPLS – Water Heater	Fuel usage or hours of operation
EP-391-1	EU-391-BLR-1	Mayflower Boiler #1	Fuel usage or hours of operation
EP-391-2	EU-391-GEN-1	Mayflower Generator	Fuel usage or hours of operation or kW
EP-391-4	EU-391-BLR-2	Mayflower Boiler	Fuel usage or hours of operation
EP-391-5	EU-391-BLR-3	Mayflower Boiler	Fuel usage or hours of operation
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator – Pump Station	Fuel usage or hours of operation or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator – Dewatering Wells	Fuel usage or hours of operation or kW
EP-393-1	EU-393-UH-1	Unit Heater	Fuel usage or hours of operation
EP-393-2	EU-393-UH-2	Unit Heater	Fuel usage or hours of operation
EP-393-4	EU-393-BLR-1	Hydraulics WT Annex 130 W Harrison St Boiler	Fuel usage or hours of operation
EP-394-1	EU-394-FUR-1	Furnace	Fuel usage or hours of operation
EP-394-1	EU-394-WH-1	Water Heater	Fuel usage or hours of operation
EP-401-1	EU-401-GEN-1	EMRB Generator	Fuel usage or hours of operation or kW
EP-401-2	EU-401-UST-1	EMRB Fuel Tank	Material usage ³
*EP-408-1	EU-408-GEN-1	Oakdale Uplink-ITS Broadcasting Generator	Fuel usage or hours of operation or kW
EP-418-1 EP-418-2	EU-418-GEN-1	IATL Generator	Fuel usage or hours of operation or kW
EP-418-3	EU-418-AST-1	IATL Fuel Tank	Material usage ³
EP-418-4	EU-418-GEN-2	IATL Generator – Flood Mitigation	Fuel usage or hours of operation or kW
EP-420-1	EU-420-BLR-1	HWBF Boiler #1	Fuel usage or hours of operation
EP-420-2	EU-420-BLR-2	HWBF Boiler #2	Fuel usage or hours of operation
EP-420-3	EU-420-BLR-3	HWBF Boiler #3	Fuel usage or hours of operation
EP-430-1	EU-430-GEN-1	PBAB Generator	Fuel usage or hours of operation or kW
EP-434-1	EU-434-BLR-1	Hot Water Boiler #1	Fuel usage or hours of operation
EP-434-3	EU-434-BLR-2	Hot Water Boiler #2	Fuel usage or hours of operation
EP-434-5	EU-434-BLR-3	Hot Water Boiler #3	Fuel usage or hours of operation
*EP-434-6	EU-434-BLR-5	Fulton Steam Boiler	Fuel usage or hours of operation
EP-434-9	EU-434-WH-1	Water Heater	Fuel usage or hours of operation
EP-434-2	EU-434-GEN-1	Levitt Center Generator	Fuel usage or hours of operation or kW
EP-434-8	EU-434-UH-1	Boiler Room Unit Heater	Fuel usage or hours of operation
EP-434-7	EU-434-BLR-4	Hot Water Boiler	Fuel usage or hours of operation
EP-435-1	EU-435-GEN-1	MTF Diesel Generator (250 KW)	Fuel usage or hours of operation or kW
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 KW)	Fuel usage or hours of operation or kW
EP-436-1	EU-436-FUR-1	Furnace	Fuel usage or hours of operation
EP-436-2	EU-436-FUR-2	Furnace	Fuel usage or hours of operation
EP-436-3	EU-436-FUR-3	Furnace	Fuel usage or hours of operation
EP-436-4	EU-436-FUR-4	Furnace	Fuel usage or hours of operation
EP-436-5	EU-436-FUR-5	Furnace	Fuel usage or hours of operation
EP-436-15	EU-436-UH-6	Unit Heater	Fuel usage or hours of operation
EP-436-16	EU-436-UH-7	Unit Heater	Fuel usage or hours of operation
EP-437-1	EU-437-FUR-1	Furnace	Fuel usage or hours of operation
EP-437-1	EU-437-WH-1	Water Heater	Fuel usage or hours of operation
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator	Fuel usage or hours of operation or kW
EP-439-1	EU-439-BLR-1	NADS Boiler #1	Fuel usage or hours of operation
EP-439-2	EU-439-BLR-2	NADS Boiler #2	Fuel usage or hours of operation
EP-439-3	EU-439-BLR-3	NADS Boiler #3	Fuel usage or hours of operation
EP-440-1	EU-440-FUR-1	Hydraulics Oakdale Annex 2 Furnace #1	Fuel usage or hours of operation
EP-440-2	EU-440-FUR-2	Hydraulics Oakdale Annex 2 Furnace #2	Fuel usage or hours of operation

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-440-3	EU-440-UH-1	Hydraulics Oakdale Annex 2 Unit Heater #1	Fuel usage or hours of operation
EP-440-4	EU-440-UH-2	Hydraulics Oakdale Annex 2 Unit Heater #2	Fuel usage or hours of operation
EP-440-5	EU-440-UH-3	Hydraulics Oakdale Annex 2 Unit Heater #3	Fuel usage or hours of operation
EP-440-6	EU-440-UH-4	Hydraulics Oakdale Annex 2 Unit Heater #4	Fuel usage or hours of operation
EP-440-7	EU-440-UH-5	Hydraulics Oakdale Annex 2 Unit Heater #5	Fuel usage or hours of operation
EP-440-8	EU-440-UH-6	Hydraulics Oakdale Annex 2 Unit Heater #6	Fuel usage or hours of operation
EP-440-9	EU-440-UH-7	Hydraulics Oakdale Annex 2 Unit Heater #7	Fuel usage or hours of operation
EP-440-10	EU-440-UH-8	Hydraulics Oakdale Annex 2 Unit Heater #8	Fuel usage or hours of operation
EP-440-11	EU-440-UH-9	Hydraulics Oakdale Annex 2 Unit Heater #9	Fuel usage or hours of operation
EP-440-12	EU-440-UH-10	Hydraulics Oakdale Annex 2 Unit Heater #10	Fuel usage or hours of operation
EP-440-13	EU-440-UH-11	Hydraulics Oakdale Annex 2 Unit Heater #11	Fuel usage or hours of operation
*EP-441-1	EU-441-BLR-1	Laundry Building Boiler #1	Fuel usage or hours of operation
*EP-441-2	EU-441-BLR-2	Laundry Building Boiler #2	Fuel usage or hours of operation
EP-441-5	EU-441-UH-1	Laundry Building Unit Heater #1	Fuel usage or hours of operation
EP-441-6	EU-441-UH-2	Laundry Building Unit Heater #2	Fuel usage or hours of operation
EP-441-7	EU-441-UH-3	Laundry Building Unit Heater #3	Fuel usage or hours of operation
EP-441-8	EU-441-UH-4	Laundry Building Unit Heater #4	Fuel usage or hours of operation
EP-441-9	EU-441-UH-5	Laundry Building Unit Heater #5	Fuel usage or hours of operation
EP-441-10	EU-441-UH-6	Laundry Building Unit Heater #6	Fuel usage or hours of operation
EP-441-11	EU-441-UH-7	Laundry Building Unit Heater #7	Fuel usage or hours of operation
EP-441-12	EU-441-UH-8	Laundry Building Unit Heater #8	Fuel usage or hours of operation
EP-441-13	EU-441-UH-9	Laundry Building Unit Heater #9	Fuel usage or hours of operation
EP-441-14	EU-441-UH-10	Laundry Building Unit Heater #10	Fuel usage or hours of operation
EP-441-15	EU-441-UH-11	Laundry Building Unit Heater #11	Fuel usage or hours of operation
EP-441-3	EU-441-FUR-1	Laundry Building Roof Furnace #1	Fuel usage or hours of operation
EP-441-4	EU-441-FUR-2	Laundry Building Roof Furnace #2	Fuel usage or hours of operation
EP-441-16	EU-441-WH-12	Laundry Building Water Heater #12	Fuel usage or hours of operation
EP-446-5	EU-446-GEN-1	Hall of Fame Generator	Fuel usage or hours of operation or kW
EP-446-1	EU-446-BLR-1	Hot Water Boiler	Fuel usage or hours of operation
EP-446-2	EU-446-BLR-2	Hot Water Boiler	Fuel usage or hours of operation
EP-446-3	EU-446-BLR-3	Hot Water Boiler	Fuel usage or hours of operation
EP-447-1	EU-447-GEN-1	MEBRF Generator	Fuel usage or hours of operation or kW
EP-447-2	EU-447-AST-1	MEBRF Generator Fuel Tank	Material usage ³
EP-448-1	EU-448-GEN-1	New Biology Building Generator	Fuel usage or hours of operation or kW
EP-448-3	EU-448-WH-1	Water Heater	Fuel usage or hours of operation
EP-450-1	EU-450-GEN-1	USB Generator	Fuel usage or hours of operation or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-450-2	EU-450-BLR-1	USB Hot Water Boiler	Fuel usage or hours of operation
EP-450-3	EU-450-BLR-2	USB Hot Water Boiler	Fuel usage or hours of operation
EP-450-4	EU-450-WH-1	USB Water Heater	Fuel usage or hours of operation
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	Fuel usage or hours of operation or kW
EP-455-1	EU-455-GEN-1	CBRB Generator	Fuel usage or hours of operation or kW
EP-455-2	EU-455-AST-1	CBRB Generator Fuel Tank	Material usage ³
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator	Fuel usage or hours of operation or kW
EP-457-3	EU-457-BLR-1	Hawkeye Tennis Boiler	Fuel usage or hours of operation
EP-457-4	EU-457-BLR-2	Hawkeye Tennis Boiler	Fuel usage or hours of operation
*EP-457-1	EU-457-WH-1	Hawkeye Tennis Water Heater	Fuel usage or hours of operation
*EP-457-2	EU-457-WH-2	Hawkeye Tennis Water Heater	Fuel usage or hours of operation
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	Fuel usage or hours of operation or kW
EP-460-1	EU-460-FUR-1	Furnace	Fuel usage or hours of operation
EP-460-1	EU-460-WH-1	Water Heater	Fuel usage or hours of operation
*EP-461-1	EU-461-FUR-1	Furnace	Fuel usage or hours of operation
*EP-461-2	EU-461-FUR-2	Furnace	Fuel usage or hours of operation
*EP-461-3	EU-461-FUR-3	Furnace	Fuel usage or hours of operation
*EP-461-4	EU-461-FUR-4	Furnace	Fuel usage or hours of operation
EP-462-1	EU-462-WH-1	Water Heater	Fuel usage or hours of operation
EP-462-2	EU-462-FUR-1	Furnace	Fuel usage or hours of operation
EP-469-1	EU-469-FUR-1	Furnace	Fuel usage or hours of operation
EP-469-1	EU-469-WH-1	Water Heater	Fuel usage or hours of operation
*EP-478-1	EU-478-BLR-1	RRH Boiler	Fuel usage or hours of operation
*EP-490-1	EU-490-KILN-6	Geil Kiln 6	Fuel usage or hours of operation
*EP-490-2	EU-490-KILN-7	Geil Kiln 7	Fuel usage or hours of operation
*EP-490-3	EU-490-KILN-8	Geil Kiln 8	Fuel usage or hours of operation
*EP-490-4	EU-490-KILN-9	Geil Kiln 9	Fuel usage or hours of operation
*EP-490-5	EU-490-KILN-10	Geil Kiln 10	Fuel usage or hours of operation
*EP-490-6	EU-490-KILN-11	Geil Kiln 11	Fuel usage or hours of operation
*EP-490-7	EU-490-KILN-12	Geil Kiln 12	Fuel usage or hours of operation
*EP-490-8	EU-490-KILN-13	Geil Kiln 13	Fuel usage or hours of operation
*EP-490-9	EU-490-KILN-14	Gas Fired Burnout Kiln (propane)	Hours of operation or fuel usage ⁷
*EP-490-10	EU-490-KILN-15	Wood Fired Kiln	Hours of operation or fuel usage ⁷
*EP-490-11	EU-490-FUR-1	Furnace	Fuel usage or hours of operation
*EP-490-12	EU-490-FUR-2	Furnace	Fuel usage or hours of operation
*EP-490-13	EU-490-FUR-3	Furnace	Fuel usage or hours of operation
*EP-490-14	EU-490-FUR-4	Furnace	Fuel usage or hours of operation
*EP-490-15	EU-490-FUR-5	Furnace	Fuel usage or hours of operation
*EP-490-16	EU-490-FUR-6	Furnace	Fuel usage or hours of operation
*EP-490-17	EU-490-FUR-7	Furnace	Fuel usage or hours of operation
*EP-490-18	EU-490-FUR-8	Furnace	Fuel usage or hours of operation
*EP-490-19	EU-490-FUR-9	Furnace	Fuel usage or hours of operation
*EP-490-20	EU-490-SMELT-1	Sculpture Forge/Smelter	Fuel usage or hours of operation ⁷

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
*EP-490-24	EU-490-PLASTIC-1	Ceramic Shell within Sculpture DC System	Material usage ^{3, 7}
*EP-490-25	EU-490-PNT-3	Printmaking Spray Booth	Material usage ^{3, 7}
*EP-490-26	EU-490-PNT-4	Metals Spray Booth (Bench-top)	Material usage ^{3, 7}
*EP-490-27	EU-490-PNT-5	Performing Arts Paint Booth (Walk-in)	Material usage ^{3, 7}
*EP-490-28	EU-490-PNT-6	Art Paint Booth (Walk-in)	Material usage ^{3, 7}
*EP-490-29	EU-490-PNT-7	Glazed Spray Booth (Ceramics Benchtop Spray Booth)	Material usage ^{3, 7}
*EP-490-30	EU-490-KILN-16	Wood Fired Kiln	Hours of operation or fuel usage ⁷
*EP-490-31	EU-490-KILN-17	Wood Fired Kiln	Hours of operation or fuel usage ⁷
*EP-490-32	EU-490-KILN-18	Gas Fired Kiln	Fuel usage or hours of operation ⁷
EP-PORTGEN-1	EU-PORT-GEN-1	Portable Generator	Fuel usage or hours of operation or kW
EP-PORTGEN-2	EU-PORT-GEN-2	Portable Generator 2	Hours of operation or fuel usage or kW
EP-PORTAST-1	EU-PORT-AST-1	Portable Generator 800-gallon fuel tank	Material usage ³

¹ If hours of operation are recorded, the fuel combusted during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

² The facility shall keep records of the unit's monthly material usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

³ For monitoring purposes, the facility shall track the amount and VOC content as set forth in the applicable recordkeeping requirement if the unit does not have applicable recordkeeping requirements in its construction permit.

⁴ For small (10 MMBtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators and large (greater than 10 MMBtu/hr capacity) external combustion units, in lieu of individual usage records.

⁵ For monitoring purposes, the facility may choose to assume material usage is equivalent to the amount of VOC in the material at the time of purchase. During the first 12-month period calculated emissions shall also include emissions from any material in inventory at the time the facility chooses to use this option.

⁶ Emissions for this unit are accounted for under the Hurst Boiler, EU-239-BLR-5.

⁷ The facility may assume the unit is operated at maximum capacity for 2,080 hours per year, and calculate the emissions on that basis.

⁸ If usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately

following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

Authority for Requirements: DNR Construction Permit 16-A-049-PAL (VOC PAL)

*These units have been removed since the PAL was issued March 24, 2016.

The small emission units listed below have been added at the facility since the PAL was issued March 24, 2016. Monitoring is required in accordance with the VOC PAL permit.

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-PP55	EU-PP55	Boiler 12	Fuel usage or hours of operation
*EP-PP56	EU-PP56	East Campus Boiler 1	Fuel usage or hours of operation
EP-013-2	EU-013-BLR-1	Athletic Learning Center Boiler 1	Fuel usage or hours of operation
EP-013-3	EU-013-BLR-2	Athletic Learning Center Boiler 2	Fuel usage or hours of operation
EP-013-4	EU-013-WH-1	Athletic Learning Center Water Heater	Fuel usage or hours of operation
EP-042-3	EU-042-GEN-2	Kinnick Stadium Generator	Hours of operation or fuel usage or kW
*EP-055-1	EU-055-BLR-1	Obermann Center Hot Water Boiler	Hours of operation or fuel usage
EP-055-2	EU-055-WH-1	Obermann Center Water Heater	Hours of operation or fuel usage
EP-055-3	EU-055-BLR-2	Obermann Center Steam Boiler #2	Hours of operation or fuel usage
*EP-063-1	EU-063-GEN-1	Bioventures Center Generator	Hours of operation or fuel usage or kW
EP-69	EU-069-AST-1	UIHC Integrated Services Center Fuel Tank	Material usage ³
EP-70	EU70-GEN-1	UIHC Centralized Emergency Power Generator 4	Fuel usage or hours of operation
EP-71	EU71-GEN-1	UIHC Centralized Emergency Power Generator 5	Fuel usage or hours of operation
EP-079-1	EU-079-GEN-1	Stanley Museum of Art Generator	Fuel usage or hours of operation
*EP-081-2	EU-081-BLR-1	Water Boiler (Faculty Art Studios)	Hours of operation or fuel usage
EP-084-1	EU-084-GEN-1	Health Sciences Academic Building NG Emergency Generator, Caterpillar Model DG500	Fuel usage or hours of operation
EP-090-2	EU-090-PNT-1	Woodshop Paint Booth	Material usage ^{3, 7}
EP-090-3	EU-090-SMELT-1	Crucible / Forge Furnaces	Hours of operation or fuel usage ⁷
EP-090-4	EU-090-PLASTIC-1	Ceramic Shell	Material usage ^{3, 7}
EP-090-5	EU-090-PNT-2	Ceramics Paint Booth	Material usage ^{3, 7}
EP-090-7	EU-090-PNT-3	Metals Benchtop Paint Booth	Material usage ^{3, 7}
EP-090-8	EU-090-PNT-4	Printmaking Paint Booth	Material usage ^{3, 7}
EP-090-9	EU-090-PNT-5	Shared Spaces Paint Booth	Material usage ^{3, 7}
EP-090-10	EU-090-KILN-1	Geil Kiln 1	Hours of operation or fuel usage
EP-090-11	EU-090-KILN-2	Geil Kiln 2	Hours of operation or fuel usage
EP-090-12	EU-090-KILN-3	Geil Kiln 3	Hours of operation or fuel usage
EP-090-13	EU-090-KILN-4	Geil Kiln 4	Hours of operation or fuel usage
EP-090-14	EU-090-KILN-5	Geil Kiln 5	Hours of operation or fuel usage
EP-090-15	EU-090-KILN-6	Geil Kiln 6	Hours of operation or fuel usage
EP-090-16	EU-090-KILN-7	Geil Kiln 7	Hours of operation or fuel usage

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-090-17	EU-090-KILN-8	Wood-Fired Kiln 1	Hours of operation or fuel usage ⁷
EP-090-18	EU-090-KILN-9	Wood-Fired Kiln 2	Hours of operation or fuel usage ⁷
EP-106-2	EU-106-PMPU-1	Pharmaceutical Manufacturing Process Unit	Material usage or hours of operation
EP-120-2	EU-120-PNT-1	Hancher Paint Booth	Material usage or hours of operation ^{4, 7}
EP-123-3	EU-123-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-2	EU-132-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-3	EU-132-UH-1	Unit Heater	Hours of operation or fuel usage
EP-132-4	EU-132-UH-2	Unit Heater	Hours of operation or fuel usage
EP-137-1	EU-137-GEN-1	HRDP NG Emergency Generator	Fuel usage or hours of operation
EP-149-1	EU-149-GEN-1	GFWC Emergency NG Generator	Fuel usage or hours of operation
EP-160-19	EU-160-UH-3	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-21	EU-160-UH-4	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-22	EU-160-FUR-5	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-23	EU-160-FUR-6	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-24	EU-160-FUR-7	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-25	EU-160-FUR-8	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-26	EU-160-FUR-9	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-27	EU-160-FUR-10	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-186-1	EP-186-UH-1	Unit Heater	Hours of operation or fuel usage
EP-186-2	EP-186-UH-2	Unit Heater	Hours of operation or fuel usage
EP-186-3	EP-186-UH-3	Unit Heater	Hours of operation or fuel usage
EP-186-4	EP-186-UH-4	Unit Heater	Hours of operation or fuel usage
EP-186-5	EP-186-UH-5	Unit Heater	Hours of operation or fuel usage
EP-186-6	EP-186-UH-6	Unit Heater	Hours of operation or fuel usage
*EP-187-3	EU-187-WH-1	Water Heater	Hours of operation or fuel usage
EP-234-1	EU-234-FUR-1	Oakdale Studio Facility Furnace	Hours of operation or fuel usage
EP-239-7	EU-239-AST-1	1500 kW Emergency Generator Fuel tank (1250 gal)	Material usage ³
EP-239-8	EU-239-AST-2	1500 kW Emergency Generator Fuel tank (3000 gal)	Material usage ³
EP-240-4	EU-240-CT-3	Cooling Tower 3	Fuel usage or hours of operation
EP-278-2	EU-278-GEN-2	DSB Natural Gas 300 kW Generator	Hour of operation or fuel usage
EP-280-1	EU-280-FUR-1	Nagle Family Clubhouse Renew Daikin Furnace	Hours of operation or fuel usage
EP-280-2	EU-280-FUR-2	Nagle Family Clubhouse Renew Air Furnace	Hours of operation or fuel usage
EP-280-3	EU-280-UH-1	Nagle Family Clubhouse Golf Cart Storage Unit Heater	Hours of operation or fuel usage
EP-280-4	EU-280-UH-2	Nagle Family Clubhouse Basement Unit Heater	Hours of operation or fuel usage
EP-280-5	EU-280-UH-3	Nagle Family Clubhouse Renew Unit Heater	Hours of operation or fuel usage
EP-280-6	EU-280-WH-1	Nagle Family Clubhouse Renew Water Heater	Hours of operation or fuel usage
EP-280-7	EU-280-WH-2	Nagle Family Clubhouse Renew Water Heater	Hours of operation or fuel usage

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-317-3	EU-317-FUR-2	ITDC Furnace and AC	Hours of operation or fuel usage
EP-317-4	EU-317-FUR-3	ITDC Furnace and AC	Hours of operation or fuel usage
EP-337-5	EU-337-UH-2	Unit Heater	Hours of operation or fuel usage
EP-337-6	EU-337-UH-3	Unit Heater	Hours of operation or fuel usage
EP-347-3	EU-347-UH-3	Unit Heater	Hours of operation or fuel usage
EP-347-4	EU-347-UH-4	Unit Heater	Hours of operation or fuel usage
EP-358-4	EU-358-UH-4	Unit Heater	Hours of operation or fuel usage
EP-373-1	EU-373-PNT-1	HA1 Paint Booth	Material usage or hours of operation
EP-393-5	EU-393-UH-3	Unit Heater	Hours of operation or fuel usage
EP-395-1	EU-395-BLR-1	Hansen Football Performance Center Condensing Boiler #1	Fuel usage or hours of operation
EP-395-2	EU-395-BLR-2	Hansen Football Performance Center Condensing Boiler #2	Fuel usage or hours of operation
EP-395-3	EU-395-BLR-3	Hansen Football Performance Center Condensing Boiler #3	Fuel usage or hours of operation
EP-435-3	EU-435-FUR-1	MTF Furnace	Hours of operation or fuel usage
EP-435-4	EU-435-FUR-2	MTF Furnace	Hours of operation or fuel usage
EP-435-5	EU-435-FUR-3	MTF Furnace	Hours of operation or fuel usage
EP-435-6	EU-435-FUR-4	MTF Furnace	Hours of operation or fuel usage
EP-435-7	EU-435-FUR-5	MTF Furnace	Hours of operation or fuel usage
EP-435-8	EU-435-FUR-6	MTF Furnace	Hours of operation or fuel usage
EP-435-9	EU-435-FUR-7	MTF Furnace	Hours of operation or fuel usage
EP-435-10	EU-435-FUR-8	MTF Furnace	Hours of operation or fuel usage
EP-435-11	EU-435-FUR-9	MTF Furnace	Hours of operation or fuel usage
EP-435-12	EU-435-FUR-10	MTF Furnace	Hours of operation or fuel usage
EP-435-13	EU-435-UH-1	MTF Unit Heater	Hours of operation or fuel usage
EP-436-6	EU-436-FUR-6	Furnace	Hours of operation or fuel usage
EP-436-7	EU-436-FUR-7	Furnace	Hours of operation or fuel usage
EP-436-8	EU-436-FUR-8	Furnace	Hours of operation or fuel usage
EP-436-9	EU-436-FUR-9	Furnace	Hours of operation or fuel usage
EP-436-10	EU-436-UH-1	Unit Heater	Hours of operation or fuel usage
EP-436-11	EU-436-UH-2	Unit Heater	Hours of operation or fuel usage
EP-436-12	EU-436-UH-3	Unit Heater	Hours of operation or fuel usage
EP-436-13	EU-436-UH-4	Unit Heater	Hours of operation or fuel usage
EP-436-14	EU-436-UH-5	Unit Heater	Hours of operation or fuel usage
EP-436-17	EU-436-UH-8	Unit Heater	Hours of operation or fuel usage
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	Fuel usage or hours of operation
EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4	Fuel usage or hours of operation
EP-441-19	EU-441-FUR-3	Laundry Building Roof Furnace #3 New Addition	Hours of operation or fuel usage
EP-457-5	EU-457-WH-3	Hawkeye Tennis Water Heater #3	Hours of operation or fuel usage
EP-457-6	EU-457-BLR-3	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-7	EU-457-BLR-4	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-8	EU-457-BLR-5	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-9	EU-457-WH-4	Hawkeye Tennis Water Heater #4	Hours of operation or fuel usage
EP-457-10	EU-457-GEN-1	HTRC Emergency Generator	Fuel usage or hours of operation
EP-478-2	EU-478-BLR-2	Advanced Services Building Hot Water Boiler #1	Fuel usage or hours of operation

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 4, 5, 8, 9}
EP-478-3	EU-478-BLR-3	Advanced Services Building Hot Water Boiler #1	Fuel usage or hours of operation
EP-674-1	EU-674-BLR-1	Boiler 1 NG and Fuel Oil 22.1 MMBtu/hr	Fuel usage or hours of operation
	EU-674-BLR-2B	Boiler 2B NG and Fuel Oil 10 MMBtu/hr	
	EU-674-BLR-3	Boiler 3 NG and Fuel Oil 10 MMBtu/hr	
EP-674-4	EU-674-GEN-1	Emergency Diesel Generator West 600 kW	Fuel usage or hours of operation
EP-674-5	EU-674-GEN-2	Emergency Diesel Generator East 800 kW	Fuel usage or hours of operation
EP-674-8	EU-674-CT-1	Cooling Tower #1	Fuel usage or hours of operation
EP-674-9	EU-674-CT-2	Cooling Tower #2	Fuel usage or hours of operation
EP-674-10	EU-674-CT-3	Cooling Tower #3	Fuel usage or hours of operation
EP-674-11	EU-674-CT-4	Cooling Tower #4	Fuel usage or hours of operation
EP-674-12	EU-674-CT-5	Cooling Towner #5	Fuel usage or hours of operation

¹ If hours of operation are recorded, the fuel combusted during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

² The facility shall keep records of the unit's monthly material usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

³ For monitoring purposes, the facility shall track the amount and VOC content as set forth in the applicable recordkeeping requirement if the unit does not have applicable recordkeeping requirements in its construction permit.

⁴ For small (10 MMBtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators and large (greater than 10 MMBtu/hr capacity) external combustion units, in lieu of individual usage records.

⁵ For monitoring purposes, the facility may choose to assume material usage is equivalent to the amount of VOC in the material at the time of purchase. During the first 12-month period calculated emissions shall also include emissions from any material in inventory at the time the facility chooses to use this option.

⁶ Emissions for this unit are accounted for under the Hurst Boiler, EU-239-BLR-5.

⁷ The facility may assume the unit is operated at maximum capacity for 2,080 hours per year, and calculate the emissions on that basis.

⁸ If usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

Authority for Requirements: 567 IAC 24.108(14)

*These units have been removed since the PAL was issued March 24, 2016.

Monitoring Requirements for SO₂, NO_x, and CO

Major Emission Units

EP ID	EU(s) ID	EU Description	Monitoring Requirements
EP-PP06	EU-PP06	Boiler 10	CEM ^{1, 5}
EP-PP07	EU-PP07	Boiler 11	CEM ^{1, 2, 6}
EP-PP07	EU-PP07	Boiler 11	Fuel usage ^{3, 4, 7}

¹ For every day of missing or invalid data, the facility shall follow the procedures of CEMS Requirements Condition C.

² Until the flowmeter is installed, for every day of missing or invalid data, the facility shall follow the procedures of IDNR permit 95-A-438-P3*.

³ Fuel usage per type is to be totaled on a daily basis. For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

⁴ If a CEM is installed in the future, the facility shall meet the requirements of footnote 1.

⁵ SO₂, NO_x, and CO.

⁶ SO₂ and NO_x only.

⁷ CO only.

* Please note that the current construction permit is 95-A-438-P4.

Significant Emission Units – NO_x only

EP ID	EU(s) ID	EU Description	Monitoring Requirements ¹
EP-PP03	EU-PP03	Boiler 7	CEM ² /Fuel Usage or Hours of operation ³
EP-PP04	EU-PP04	Boiler 8	CEM ² /Fuel Usage or Hours of operation ³

¹ For every day of missing or invalid data, the University shall follow the procedures of CEMS Condition C.

² Daily fuel throughput is to be recorded. If hours of operation are recorded, the fuel combusted during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

³ Fuel usage is to be totaled on a daily basis. For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

Small Emission Units

NOTE: The requirements below for EP-PP03, Boiler 7 and EP-PP04, Boiler 8 do not apply to NO_x as EP-PP03 and EP-PP04 are classified as Significant Emission Units for NO_x as shown above.

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-PP03	EU-PP03	Boiler 7	Fuel usage or hours of operation
EP-PP04	EU-PP04	Boiler 8	Fuel usage or hours of operation
EP-PP27	EU-PP27	Emergency Diesel Generator #7	Hours of operation or fuel usage or kW
EP-PP43	EU-PP43	Boiler T1	Fuel usage or hours of operation
EP-PP44	EU-PP44	Boiler T2	Fuel usage or hours of operation
EP-PP52.1	EU-PP52.1	PP Engines 1	Hours of operation or fuel usage or kW
EP-PP52.2	EU-PP52.2	PP Engines 2	Hours of operation or fuel usage or kW
EP-PP52.3	EU-PP52.3	PP Engines 3	Hours of operation or fuel usage or kW
EP-PP52.4	EU-PP52.4	PP Engines 4	Hours of operation or fuel usage or kW
**EP-PP55	EU-PP55	Boiler #12	Fuel usage or hours of operation
*EP-PP56	EU-PP56	East Campus Boiler #1	Fuel usage or hours of operation
EP-1	EU1-1	Boyd Tower Generator	Hours of operation or fuel usage or kW
EP-2	EU2-1	General Hospital Generator	Hours of operation or fuel usage or kW
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator	Hours of operation or fuel usage or kW
EP-003-5	EU-003-GEN-3	Chemistry Building Generator	Hours of operation or fuel usage or kW
*EP-4	EU4-1	Pomerantz Family Pavilion Generator	Hours of operation or fuel usage or kW
EP-5	EU5-1	J. Colloton Pavilion West Generator	Hours of operation or fuel usage or kW
EP-6	EU6-1	J. Colloton Pavilion East Generator	Hours of operation or fuel usage or kW
EP-006-1 EP-006-2	EU-006-GEN-1	Pharmacy Generator	Hours of operation or fuel usage or kW
EP-7	EU7-1	John Pappajohn Pavilion Generator	Hours of operation or fuel usage or kW
EP-8	EU8-1	South Wing Generator	Hours of operation or fuel usage or kW
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	Hours of operation or fuel usage or kW
**EP-013-2	EU-013-BLR-1	Athletic Learning Center Boiler 1	Fuel usage or hours of operation
**EP-013-3	EU-013-BLR-2	Athletic Learning Center Boiler 2	Fuel usage or hours of operation
**EP-013-4	EU-013-WH-1	Athletic Learning Center Water Heater	Fuel usage or hours of operation
*EP-17	EU17-1	Pomerantz Family Pavilion Eye Clinic Generator	Hours of operation or fuel usage or kW
EP-018-4	EU-018-GEN-3	Biology Building Generator	Hours of operation or fuel usage or kW
EP-18	EU-18	Pomerantz Family Pavilion Boiler	Hours of operation or fuel usage
*EP-19	EU19-1	Roy Carver Pavilion Generator	Hours of operation or fuel usage or kW
EP-022-1	EU-022-GEN-1	Engineering Building Generator	Hours of operation or fuel usage or kW
EP-25	EU25-1	Hospital School Generator	Hours of operation or fuel usage or kW
EP-028-1	EU-028-GEN-1	ML Generator	Hours of operation or fuel usage or kW
EP-033-1	EU-033-GEN-1	Westlawn Generator	Hours of operation or fuel usage or kW
EP-034-1	EU-034-GEN-1	MEB Generator	Hours of operation or fuel usage or kW
EP-037-1	EU-037-GEN-1	Art Building West Generator	Hours of operation or fuel usage or kW
EP-040-1	EU-040-GEN-1	Fieldhouse Generator	Hours of operation or fuel usage or kW
**EP-042-3	EU-042-GEN-2	Kinnick Stadium Generator	Hours of operation or fuel usage or kW
EP-044-1	EU-044-GEN-1	Currier Hall Generator	Hours of operation or fuel usage or kW
EP-046-4	EU-046-GEN-2	IMU Generator	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-046-5	EU-046-GEN-3	IMU Generator – Flood Mitigation	Hours of operation or fuel usage or kW
EP-047-1	EU-047-FUR-1	Furnace	Hours of operation or fuel usage
EP-047-2	EU-047-WH-1	Water Heater	Hours of operation or fuel usage
*EP-48	EU48-1	ETC Generator	Hours of operation or fuel usage or kW
*EP-49	EU49-1	PFP Generator	Hours of operation or fuel usage or kW
EP-51	EU51-1	Aircare Generator	Hours of operation or fuel usage or kW
EP-52	EU52-1	IRL ACCF Generator	Hours of operation or fuel usage or kW
EP-053-1	EU-053-FUR-1	Furnace	Hours of operation or fuel usage
EP-053-1	EU-053-WH-1	Water Heater	Hours of operation or fuel usage
EP-54	EU54-BLR-1	Sports Medicine Boiler	Hours of operation or fuel usage
EP-55	EU55-WH-1	Sports Medicine Water Heater – Gas Fired	Hours of operation or fuel usage
EP-56	EU56-WH-1	Sports Medicine Water Heater – Gas Fired	Hours of operation or fuel usage
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd. Natural Gas Generator	Hours of operation or fuel usage or kW
EP-057-2	EU-057-BLR-1	2660 Crosspark Rd. Hot Water Boiler #1	Hours of operation or fuel usage
EP-057-3	EU-057-BLR-2	2660 Crosspark Rd. Hot Water Boiler #2	Hours of operation or fuel usage
EP-057-4	EU-057-BLR-3	2660 Crosspark Rd. Hot Water Boiler #3	Hours of operation or fuel usage
EP-057-5	EU-057-FUR-1	2660 Crosspark Rd. NE Rooftop Furnace	Hours of operation or fuel usage
EP-057-6	EU-057-FUR-2	2660 Crosspark Rd. NW Rooftop Furnace	Hours of operation or fuel usage
EP-58	EU58-BLR-1	IRL ACCF Boiler 1	Hours of operation or fuel usage
EP-59	EU59-BLR-1	IRL ACCF Boiler 2	Hours of operation or fuel usage
EP-61	EU61-GEN-1	ACCF Natural Gas Generator	Hours of operation or fuel usage or kW
EP-62	EU62-GEN-1	UIHC Centralized Emergency Power Generator #1	Hours of operation or fuel usage or kW
EP-63	EU63-GEN-1	UIHC Centralized Emergency Power Generator #2	Hours of operation or fuel usage or kW
EP-64	EU64-GEN-1	UIHC Centralized Emergency Power Generator #3	Hours of operation or fuel usage or kW
EP-068-1	EU-068-GEN-1	CRWC Generator	Hours of operation or fuel usage or kW
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator	Hours of operation or fuel usage or kW
EP-069-2	EU-069-FUR-1	2656 Crosspark Rd Rooftop Furnace 1	Hours of operation or fuel usage
EP-069-3	EU-069-FUR-2	2656 Crosspark Rd Rooftop Furnace 2	Hours of operation or fuel usage
EP-069-4	EU-069-FUR-3	2656 Crosspark Rd Rooftop Furnace 3	Hours of operation or fuel usage
EP-069-5	EU-069-FUR-4	2656 Crosspark Rd Rooftop Furnace 4	Hours of operation or fuel usage
EP-069-6	EU-069-FUR-5	2656 Crosspark Rd Lab Furnace	Hours of operation or fuel usage
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-073-1	EU-073-GEN-1	Burge Hall Generator	Hours of operation or fuel usage or kW
EP-075-1	EU-075-GEN-1	CoPH Generator	Hours of operation or fuel usage or kW
EP-076-1	EU-076-BLR-1	Environmental Services Boiler	Hours of operation or fuel usage
EP-076-1	EU-076-WH-1	Water Heater	Hours of operation or fuel usage
EP-077-1	EU-077-FUR-1	Furnace	Hours of operation or fuel usage
EP-077-1	EU-077-WH-1	Water Heater	Hours of operation or fuel usage
*EP-081-1	EU-081-WH-1	Water Heater	Hours of operation or fuel usage
EP-085-1	EU-085-FUR-1	Furnace	Hours of operation or fuel usage
EP-085-1	EU-085-WH-1	Water Heater	Hours of operation or fuel usage
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator (150 kW)	Hours of operation or fuel usage or kW
**EP-090-3	EU-090-SMELT-1	Crucible/Forge Furnaces	Hours of operation or fuel usage ^{4, 7}
**EP-090-10	EU-090-KILN-1	Geil Kiln 1	Hours of operation or fuel usage
**EP-090-11	EU-090-KILN-2	Geil Kiln 2	Hours of operation or fuel usage
**EP-090-12	EU-090-KILN-3	Geil Kiln 3	Hours of operation or fuel usage
**EP-090-13	EU-090-KILN-4	Geil Kiln 4	Hours of operation or fuel usage
**EP-090-14	EU-090-KILN-5	Geil Kiln 5	Hours of operation or fuel usage
**EP-090-15	EU-090-KILN-6	Geil Kiln 6	Hours of operation or fuel usage
**EP-090-16	EU-090-KILN-7	Geil Kiln 7	Hours of operation or fuel usage
**EP-090-17	EU-090-KILN-8	Wood Fired Kiln 1	Material usage ^{4, 7}
**EP-090-18	EU-090-KILN-9	Wood Fired Kiln 2	Material usage ^{4, 7}
*EP-101-1	EU-101-BLR-1	WRAC Boiler	Hours of operation or fuel usage
*EP-101-2	EU-101-WH-1	Water Heater	Hours of operation or fuel usage
**EP-106-1	EU-106-GEN-1	Pharmacy Bldg Generator	Hours of operation or fuel usage or kW
EP-112-1	EU-112-GEN-1	Hillcrest Hall Generator	Hours of operation or fuel usage or kW
EP-120-1	EU-120-GEN-1	Hancher Generator	Hours of operation or fuel usage or kW
EP-123-1	EU-123-FUR-1	Furnace	Hours of operation or fuel usage
*EP-123-2	EU-123-WH-1	Water Heater	Hours of operation or fuel usage
*EP-124-1	EU-124-FUR-1	Furnace	Hours of operation or fuel usage
*EP-124-1	EU-124-WH-1	Water Heater	Hours of operation or fuel usage
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator (250 kW)	Hours of operation or fuel usage or kW
EP-132-1	EU-132-FUR-1	Furnace	Hours of operation or fuel usage
EP-155-1	EU-155-BLR-1	Cultural Center Boiler	Hours of operation or fuel usage
EP-155-1	EU-155-WH-1	Water Heater	Hours of operation or fuel usage
EP-155-2	EU-155-FUR-1	Furnace	Hours of operation or fuel usage
EP-156-1	EU-156-WH-1	Water Heater	Hours of operation or fuel usage
EP-156-1	EU-156-FUR-1	Furnace	Hours of operation or fuel usage
EP-156-2	EU-156-BLR-1	Rainbow Childcare Boiler	Hours of operation or fuel usage
EP-160-1	EU-160-RH-1	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-2	EU-160-RH-2	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-3	EU-160-RH-3	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-4	EU-160-RH-4	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-5	EU-160-RH-5	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-6	EU-160-RH-6	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-7	EU-160-RH-7	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-8	EU-160-RH-8	MSSB Radiant Heater	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-160-9	EU-160-RH-9	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-10	EU-160-RH-10	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-11	EU-160-RH-11	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-12	EU-160-FUR-1	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-13	EU-160-FUR-2	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-14	EU-160-FUR-3	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-15	EU-160-FUR-4	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-16	EU-160-UH-1	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-17	EU-160-UH-2	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-18	EU-160-WH-1	MSSB Water Heater	Hours of operation or fuel usage
*EP-161-1	EU-161-GEN-1	University Athletic Club Generator	Hours of operation or fuel usage or kW
EP-165-1	EU-165-UH-1	HSC Gas Unit Heater 1	Hours of operation or fuel usage
EP-165-2	EU-165-UH-2	HSC Gas Unit Heater 2	Hours of operation or fuel usage
EP-165-3	EU-165-WH-1	Water Heater	Hours of operation or fuel usage
EP-176-1	EU-176-FUR-1	Furnace	Hours of operation or fuel usage
EP-176-1	EU-176-WH-1	Water Heater	Hours of operation or fuel usage
EP-185-2	EU-185-GEN-1	Water Plant Generator	Hours of operation or fuel usage or kW
EP-187-1	EU-187-FUR-1	Furnace	Hours of operation or fuel usage
EP-187-2	EU-187-FUR-2	Furnace	Hours of operation or fuel usage
EP-188-1	EU-188-GEN-1	Spence Labs Generator	Hours of operation or fuel usage or kW
*EP-195-1	EU-195-FUR-1	Furnace	Hours of operation or fuel usage
EP-195-1	EU-195-WH-1	Water Heater	Hours of operation or fuel usage
*EP-199-1	EU-199-FUR-1	Furnace	Hours of operation or fuel usage
*EP-199-1	EU-199-WH-1	Water Heater	Hours of operation or fuel usage
EP-200-1	EU-200-FUR-1	Furnace	Hours of operation or fuel usage
EP-200-1	EU-200-WH-1	Water Heater	Hours of operation or fuel usage
EP-204-1	EU-204-INC-1 EU-204-INC-1A	Crematorium	Hours of operation or Fuel usage
EP-204-2	EU-204-GEN-1	Bowen Science Generator	Hours of operation or fuel usage or kW
EP-212-1	EU-212-GEN-1	Emergency Generator at EPF1	Hours of operation or fuel usage or kW
EP-219-1	EU-219-FUR-1	Furnace	Hours of operation or fuel usage
EP-219-1	EU-219-WH-1	Water Heater	Hours of operation or fuel usage
EP-239-1	EU-239-BLR-5	Hurst Boiler	Hours of operation or Fuel usage
EP-239-1	EU-239-GSFR-1	AgBioPower Gasifier	NA ³
EP-239-1	EU-OD#2	Oakdale Boiler #2	Hours of operation or Fuel usage
EP-239-1	EU-OD#3	Oakdale Boiler #3	Hours of operation or Fuel usage
EP-239-1	EU-OD#4	Oakdale Boiler #4	Hours of operation or Fuel usage
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	Material usage or hours of operation or kW
EP-240-1	EU-240-GEN-1	OREP Engine 1	Hours of operation or fuel usage or kW
EP-240-1	EU-240-GEN-2	OREP Engine 2	Hours of operation or fuel usage or kW
*EP-255-1	EU-255-WH-1	Animal Care Rodent House Water Heater	Hours of operation or fuel usage
EP-272-1	EU-272-GEN-1	Spark Ignition Emergency Generator - Madison Street Residence Hall	Hours of operation or fuel usage or kW
EP-273-2	EU-273-GEN-2	Rienow Generator	Hours of operation or fuel usage or kW

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-274-2	EU-274-GEN-2	Slater Hall Generator	Hours of operation or fuel usage or kW
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	Hours of operation or fuel usage or kW
EP-276-2	EU-276-GEN-2	Daum Hall Generator	Hours of operation or fuel usage or kW
*EP-278-1	EU-278-GEN-1	DSB Generator	Hours of operation or fuel usage or kW
EP-290-1	EU-290-GEN-1	ITF Generator	Hours of operation or fuel usage or kW
EP-300-1	EU-300-BLR-1	Jefferson Bldg. Boiler	Hours of operation or fuel usage
EP-300-2	EU-300-BLR-2	Jefferson Bldg. Boiler	Hours of operation or fuel usage
EP-300-3	EU-300-WH-1	Water Heater	Hours of operation or fuel usage
*EP-304-1	EU-304-UH-1	Unit Heater	Hours of operation or fuel usage
*EP-304-2	EU-304-UH-2	Unit Heater	Hours of operation or fuel usage
*EP-304-3	EU-304-UH-3	Unit Heater	Hours of operation or fuel usage
EP-304-4	EU-304-GEN-1	Jacobson Building Generator	Hours of operation or fuel usage or kW
EP-307-1	EU-307-FUR-1	Furnace	Hours of operation or fuel usage
EP-307-1	EU-307-FUR-2	Furnace	Hours of operation or fuel usage
EP-307-1	EU-307-WH-1	Water Heater	Hours of operation or fuel usage
EP-308-1	EU-308-GEN-1	WCCWP Generator	Hours of operation or fuel usage or kW
EP-316-1	EU-316-GEN-1	Lindquist Generator	Hours of operation or fuel usage or kW
EP-317-1	EU-317-FUR-1	ITDC Furnace	Hours of operation or fuel usage
EP-317-2	EU-317-RH-1	ITDC Unit Heater	Hours of operation or fuel usage
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	Hours of operation or fuel usage or kW
EP-337-3	EU-337-FUR-1	Furnace	Hours of operation or fuel usage
*EP-337-4	EU-337-UH-1	Unit Heater	Hours of operation or fuel usage
EP-342-2	EU-342-FUR-1	Natural Gas Fired Forced Air Furnace	Hours of operation or fuel usage
EP-342-3	EU-342-RH-1	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-4	EU-342-RH-2	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-5	EU-342-RH-3	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-6	EU-342-RH-4	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-7	EU-342-RH-5	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-8	EU-342-RH-6	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-9	EU-342-RH-7	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-10	EU-342-RH-8	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-16	EU-342-RH-9	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-17	EU-342-RH-10	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-18	EU-342-RH-11	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-19	EU-342-RH-12	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-20	EU-342-RH-13	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-21	EU-342-RH-14	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-22	EU-342-RH-15	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
*EP-342-23	EU-342-RH-16	Reverber Ray Radiant Heaters	Hours of operation or fuel usage
EP-342-24	EU-342-BLR-1	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-25	EU-342-BLR-2	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-26	EU-342-BLR-3	Wall Mount Boiler	Hours of operation or fuel usage
EP-342-27	EU-342-BLR-4	Wall Mount Boiler	Hours of operation or fuel usage
EP-347-1	EU-347-UH-1	Unit Heater	Hours of operation or fuel usage
EP-347-2	EU-347-UH-2	Unit Heater	Hours of operation or fuel usage
EP-358-1	EU-358-UH-1	Unit Heater	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-358-2	EU-358-UH-2	Unit Heater	Hours of operation or fuel usage
EP-358-3	EU-358-UH-3	Unit Heater	Hours of operation or fuel usage
EP-369-1	EU-369-FUR-1	Furnace	Hours of operation or fuel usage
EP-370-1	EU-370-WH-1	Iowa Geological Survey Water Heater	Hours of operation or fuel usage
*EP-372-1	EU-372-FUR-1	Heinz Road Annex Furnace	Hours of operation or fuel usage
*EP-372-2	EU-372-FUR-2	Heinz Road Annex Furnace	Hours of operation or fuel usage
EP-374-2	EU-374-GEN-2	CHA Generator	Hours of operation or fuel usage or kW
EP-377-1	EU-377-GEN-1	Boyd Law Generator	Hours of operation or fuel usage or kW
EP-379-1	EU-379-FUR-1	Forced Air Furnace	Hours of operation or fuel usage
EP-379-2	EU-379-FUR-2	Forced Air Furnace	Hours of operation or fuel usage
EP-379-3	EU-379-WH-1	Water Heater	Hours of operation or fuel usage
EP-379-4	EU-379-BLR-1	700 S Clinton Boiler	Hours of operation or fuel usage
EP-379-5	EU-379-BLR-2	700 S Clinton Boiler	Hours of operation or fuel usage
EP-382-1	EU-382-FUR-1	RPLS - Furnace	Hours of operation or fuel usage
EP-382-2	EU-382-UH-1	RPLS – Unit Heater	Hours of operation or fuel usage
EP-382-3	EU-382-UH-2	RPLS – Unit Heater	Hours of operation or fuel usage
EP-382-4	EU-382-WH-1	RPLS – Water Heater	Hours of operation or fuel usage
EP-391-1	EU-391-BLR-1	Mayflower Boiler #1	Hours of operation or fuel usage
EP-391-2	EU-391-GEN-1	Mayflower Generator	Hours of operation or fuel usage or kW
EP-391-4	EU-391-BLR-2	Mayflower Boiler #2	Hours of operation or fuel usage
EP-391-5	EU-391-BLR-3	Mayflower Boiler #3	Hours of operation or fuel usage
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator – Pump Station	Hours of operation or fuel usage or kW
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator – Dewatering Wells	Hours of operation or fuel usage or kW
EP-393-1	EU-393-UH-1	Unit Heater	Hours of operation or fuel usage
EP-393-2	EU-393-UH-2	Unit Heater	Hours of operation or fuel usage
EP-393-4	EU-393-BLR-1	Hydraulics WT Annex 130 W Harrison St Boiler	Hours of operation or fuel usage
EP-394-1	EU-394-FUR-1	Furnace	Hours of operation or fuel usage
EP-394-1	EU-394-WH-1	Water Heater	Hours of operation or fuel usage
EP-401-1	EU-401-GEN-1	EMRB Generator	Hours of operation or fuel usage or kW
*EP-408-1	EU-408-GEN-1	Oakdale Uplink-ITS Broadcasting Generator	Hours of operation or fuel usage or kW
EP-418-1 EP-418-2	EU-418-GEN-1	IATL Generator	Hours of operation or fuel usage or kW
EP-418-4	EU-418-GEN-2	IATL Generator – Flood Mitigation	Hours of operation or fuel usage or kW
EP-420-1	EU-420-BLR-1	HWBF Boiler #1	Hours of operation or fuel usage
EP-420-2	EU-420-BLR-2	HWBF Boiler #2	Hours of operation or fuel usage
EP-420-3	EU-420-BLR-3	HWBF Boiler #3	Hours of operation or fuel usage
EP-430-1	EU-430-GEN-1	PBAB Generator	Hours of operation or fuel usage or kW
EP-434-1	EU-434-BLR-1	Hot Water Boiler #1	Hours of operation or fuel usage
EP-434-2	EU-434-GEN-1	Levitt Center Generator	Hours of operation or fuel usage or kW
EP-434-3	EU-434-BLR-2	Hot Water Boiler #2	Hours of operation or fuel usage
EP-434-5	EU-434-BLR-3	Hot Water Boiler #3	Hours of operation or fuel usage
*EP-434-6	EU-434-BLR-5	Levitt Center Fulton Steam Boiler	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-434-7	EU-434-BLR-4	Hot Water Boiler	Hours of operation or fuel usage
EP-434-8	EU-434-UH-1	Boiler Room Unit Heater	Hours of operation or fuel usage
EP-434-9	EU-434-WH-1	Water Heater	Hours of operation or fuel usage
EP-435-1	EU-435-GEN-1	MTF Diesel Generator (250 KW)	Hours of operation or fuel usage or kW
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 KW)	Hours of operation or fuel usage or kW
EP-436-1	EU-436-FUR-1	Furnace	Hours of operation or fuel usage
EP-436-2	EU-436-FUR-2	Furnace	Hours of operation or fuel usage
EP-436-3	EU-436-FUR-3	Furnace	Hours of operation or fuel usage
EP-436-4	EU-436-FUR-4	Furnace	Hours of operation or fuel usage
EP-436-5	EU-436-FUR-5	Furnace	Hours of operation or fuel usage
EP-436-15	EU-436-UH-6	Unit Heater	Hours of operation or fuel usage
EP-436-16	EU-436-UH-7	Unit Heater	Hours of operation or fuel usage
EP-437-1	EU-437-FUR-1	Furnace	Hours of operation or fuel usage
EP-437-1	EU-437-WH-1	Water Heater	Hours of operation or fuel usage
EP-439-1	EU-439-BLR-1	NADS Boiler #1	Hours of operation or fuel usage
EP-439-2	EU-439-BLR-2	NADS Boiler #2	Hours of operation or fuel usage
EP-439-3	EU-439-BLR-3	NADS Boiler #3	Hours of operation or fuel usage
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator	Hours of operation or fuel usage or kW
EP-440-1	EU-440-FUR-1	Hydraulics Oakdale Annex 2 Furnace #1	Hours of operation or fuel usage
EP-440-2	EU-440-FUR-2	Hydraulics Oakdale Annex 2 Furnace #2	Hours of operation or fuel usage
EP-440-3	EU-440-UH-1	Hydraulics Oakdale Annex 2 Unit Heater #1	Hours of operation or fuel usage
EP-440-4	EU-440-UH-2	Hydraulics Oakdale Annex 2 Unit Heater #2	Hours of operation or fuel usage
EP-440-5	EU-440-UH-3	Hydraulics Oakdale Annex 2 Unit Heater #3	Hours of operation or fuel usage
EP-440-6	EU-440-UH-4	Hydraulics Oakdale Annex 2 Unit Heater #4	Hours of operation or fuel usage
EP-440-7	EU-440-UH-5	Hydraulics Oakdale Annex 2 Unit Heater #5	Hours of operation or fuel usage
EP-440-8	EU-440-UH-6	Hydraulics Oakdale Annex 2 Unit Heater #6	Hours of operation or fuel usage
EP-440-9	EU-440-UH-7	Hydraulics Oakdale Annex 2 Unit Heater #7	Hours of operation or fuel usage
EP-440-10	EU-440-UH-8	Hydraulics Oakdale Annex 2 Unit Heater #8	Hours of operation or fuel usage
EP-440-11	EU-440-UH-9	Hydraulics Oakdale Annex 2 Unit Heater #9	Hours of operation or fuel usage
EP-440-12	EU-440-UH-10	Hydraulics Oakdale Annex 2 Unit Heater #10	Hours of operation or fuel usage
EP-440-13	EU-440-UH-11	Hydraulics Oakdale Annex 2 Unit Heater #11	Hours of operation or fuel usage
*EP-441-1	EU-441-BLR-1	Laundry Building Boiler #1	Hours of operation or fuel usage
*EP-441-2	EU-441-BLR-2	Laundry Building Boiler #2	Hours of operation or fuel usage
EP-441-3	EU-441-FUR-1	Laundry Building Roof Furnace #1	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-441-4	EU-441-FUR-2	Laundry Building Roof Furnace #2	Hours of operation or fuel usage
EP-441-5	EU-441-UH-1	Laundry Building Unit Heater #1	Hours of operation or fuel usage
EP-441-6	EU-441-UH-2	Laundry Building Unit Heater #2	Hours of operation or fuel usage
EP-441-7	EU-441-UH-3	Laundry Building Unit Heater #3	Hours of operation or fuel usage
EP-441-8	EU-441-UH-4	Laundry Building Unit Heater #4	Hours of operation or fuel usage
EP-441-9	EU-441-UH-5	Laundry Building Unit Heater #5	Hours of operation or fuel usage
EP-441-10	EU-441-UH-6	Laundry Building Unit Heater #6	Hours of operation or fuel usage
EP-441-11	EU-441-UH-7	Laundry Building Unit Heater #7	Hours of operation or fuel usage
EP-441-12	EU-441-UH-8	Laundry Building Unit Heater #8	Hours of operation or fuel usage
EP-441-13	EU-441-UH-9	Laundry Building Unit Heater #9	Hours of operation or fuel usage
EP-441-14	EU-441-UH-10	Laundry Building Unit Heater #10	Hours of operation or fuel usage
EP-441-15	EU-441-UH-11	Laundry Building Unit Heater #11	Hours of operation or fuel usage
EP-441-16	EU-441-WH-12	Laundry Building Water Heater #12	Hours of operation or fuel usage
**EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	Hours of operation or fuel usage
**EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4	Hours of operation or fuel usage
EP-446-1	EU-446-BLR-1	Hot Water Boiler	Hours of operation or fuel usage
EP-446-2	EU-446-BLR-2	Hot Water Boiler	Hours of operation or fuel usage
EP-446-3	EU-446-BLR-3	Hot Water Boiler	Hours of operation or fuel usage
EP-446-5	EU-446-GEN-1	Hall of Fame Generator	Hours of operation or fuel usage or kW
EP-447-1	EU-447-GEN-1	MEBRF Generator	Hours of operation or fuel usage or kW
EP-448-1	EU-448-GEN-1	New Biology Building Generator	Hours of operation or fuel usage or kW
EP-448-3	EU-448-WH-1	Water Heater	Hours of operation or fuel usage
EP-450-1	EU-450-GEN-1	USB Generator	Hours of operation or fuel usage or kW
EP-450-2	EU-450-BLR-1	USB Hot Water Boiler	Hours of operation or fuel usage
EP-450-3	EU-450-BLR-2	USB Hot Water Boiler	Hours of operation or fuel usage
EP-450-4	EU-450-WH-1	USB Water Heater	Hours of operation or fuel usage
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	Hours of operation or fuel usage or kW
EP-455-1	EU-455-GEN-1	CBRB Generator	Hours of operation or fuel usage or kW
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator	Hours of operation or fuel usage or kW
*EP-457-1	EU-457-WH-1	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
*EP-457-2	EU-457-WH-2	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
EP-457-3	EU-457-BLR-1	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-4	EU-457-BLR-2	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	Hours of operation or fuel usage or kW
EP-460-1	EU-460-FUR-1	Furnace	Hours of operation or fuel usage
EP-460-1	EU-460-WH-1	Water Heater	Hours of operation or fuel usage
*EP-461-1	EU-461-FUR-1	Furnace	Hours of operation or fuel usage
*EP-461-2	EU-461-FUR-2	Furnace	Hours of operation or fuel usage
*EP-461-3	EU-461-FUR-3	Furnace	Hours of operation or fuel usage
*EP-461-4	EU-461-FUR-4	Furnace	Hours of operation or fuel usage
EP-462-1	EU-462-WH-1	Water Heater	Hours of operation or fuel usage
EP-462-2	EU-462-FUR-1	Furnace	Hours of operation or fuel usage

EP ID	EU(s) ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-469-1	EU-469-FUR-1	Furnace	Hours of operation or fuel usage
EP-469-2	EU-469-WH-1	Water Heater	Hours of operation or fuel usage
*EP-478-1	EU-478-BLR-1	RRH Boiler	Hours of operation or fuel usage
**EP-478-2	EU-478-BLR-2	Advanced Services Building Hot Water Boiler #1	Hours of operation or fuel usage
**EP-478-3	EU-478-BLR-3	Advanced Services Building Hot Water Boiler #2	Hours of operation or fuel usage
*EP-490-1	EU-490-KILN-6	Geil Kiln 6	Hours of operation or fuel usage ^{4, 7}
*EP-490-2	EU-490-KILN-7	Geil Kiln 7	Hours of operation or fuel usage ^{4, 7}
*EP-490-3	EU-490-KILN-8	Geil Kiln 8	Hours of operation or fuel usage ^{4, 7}
*EP-490-4	EU-490-KILN-9	Geil Kiln 9	Hours of operation or fuel usage ^{4, 7}
*EP-490-5	EU-490-KILN-10	Geil Kiln 10	Hours of operation or fuel usage ^{4, 7}
*EP-490-6	EU-490-KILN-11	Geil Kiln 11	Hours of operation or fuel usage ^{4, 7}
*EP-490-7	EU-490-KILN-12	Geil Kiln 12	Hours of operation or fuel usage ^{4, 7}
*EP-490-8	EU-490-KILN-13	Geil Kiln 13	Hours of operation or fuel usage ^{4, 7}
*EP-490-9	EU-490-KILN-14	Gas Fired Burnout Kiln (propane)	Hours of operation or fuel usage ^{4, 7}
*EP-490-10	EU-490-KILN-15	Wood Fired Kiln	Hours of operation or fuel usage ^{4, 7}
*EP-490-30	EU-490-KILN-16	Wood Fired Kiln	Hours of operation or fuel usage ^{4, 7}
*EP-490-31	EU-490-KILN-17	Wood Fired Kiln	Hours of operation or fuel usage ^{4, 7}
*EP-490-32	EU-490-KILN-18	Gas Fired Kiln	Hours of operation or fuel usage ^{4, 7}
*EP-490-11	EU-490-FUR-1	Furnace	Hours of operation or fuel usage
*EP-490-12	EU-490-FUR-2	Furnace	Hours of operation or fuel usage
*EP-490-13	EU-490-FUR-3	Furnace	Hours of operation or fuel usage
*EP-490-14	EU-490-FUR-4	Furnace	Hours of operation or fuel usage
*EP-490-15	EU-490-FUR-5	Furnace	Hours of operation or fuel usage
*EP-490-16	EU-490-FUR-6	Furnace	Hours of operation or fuel usage
*EP-490-17	EU-490-FUR-7	Furnace	Hours of operation or fuel usage
*EP-490-18	EU-490-FUR-8	Furnace	Hours of operation or fuel usage
*EP-490-19	EU-490-FUR-9	Furnace	Hours of operation or fuel usage
*EP-490-20	EU-490-SMELT-1	Sculpture Forge/Smelter	Hours of operation or fuel usage ^{4, 7}
EP-PORTGEN-1	EU-PORT-GEN-1	Portable Generator	Hours of operation or fuel usage or kW
EP-PORTGEN-2	EU-PORT-GEN-2	Portable Generator 2	Hours of operation or fuel usage or kW

¹ If hours of operation are recorded, the fuel combusted during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

² For small (10 mmbtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators, and large (greater than 10 mmbtu/hr capacity) external combustion units, in lieu of individual usage records.

³ Emissions from this unit are accounted for under the Hurst Boiler, EU 239-BLR-5.

⁴ The facility may assume the unit is operated at maximum capacity for 2,080 hours per year, and calculate the emissions on that basis.

⁵ The facility shall keep records of the unit's monthly usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

⁶ If usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

⁷ For monitoring purposes, the facility shall complete required monitoring set forth in the applicable recordkeeping requirement.

Authority for Requirements: DNR Construction Permit 16-A-048-PAL (SO₂ PAL)
DNR Construction Permit 16-A-044-PAL (NO_x PAL)
DNR Construction Permit 16-A-043-PAL1 (CO PAL)

*These units have been removed since the PAL permits for SO₂ and NO_x were issued March 24, 2016, and since the PAL permit for CO was issued December 6, 2018.

**These units have been added to the updated PAL permit for CO that was issued December 6, 2018.

The small emission units listed below have been added at the facility since the PAL permits were issued March 24, 2016. Monitoring is required in accordance with the SO₂, NO_x, and CO PAL permits.

EP ID	EU ID	EU Description	Monitoring Requirements ^{1, 2, 5, 6}
EP-PP55	EU-PP55	Boiler 12	Fuel usage or hours of operation
*EP-PP56	EU-PP56	East Campus Boiler 1	Fuel usage or hours of operation
EP-013-2	EU-013-BLR-1	Athletic Learning Center Boiler 1	Fuel usage or hours of operation
EP-013-3	EU-013-BLR-2	Athletic Learning Center Boiler 2	Fuel usage or hours of operation
EP-013-4	EU-013-WH-1	Athletic Learning Center Water Heater	Fuel usage or hours of operation
*EP-055-1	EU-055-BLR-1	Obermann Center Hot Water Boiler	Hours of operation or fuel usage
EP-055-2	EU-055-WH-1	Obermann Center Water Heater	Hours of operation or fuel usage
EP-055-3	EU-055-BLR-2	Obermann Center – Steam Boiler #2	Hours of operation or fuel usage
*EP-063-1	EU-063-GEN-1	Bioventures Center Generator	Hours of operation or fuel usage or kW

EP-70	EU70-GEN-1	UIHC Centralized Emergency Power Generator 4	Fuel usage or hours of operation
EP-71	EU71-GEN-1	UIHC Centralized Emergency Power Generator 5	Fuel usage or hours of operation
EP-079-1	EU-079-GEN-1	Stanley Museum of Art Generator	Fuel usage or hours of operation
*EP-081-2	EU-081-BLR-1	Water Boiler (Faculty Art Studios)	Hours of operation or fuel usage
EP-084-1	EU-084-GEN-1	Health Sciences Academic Building NG Emergency Generator, Caterpillar Model DG500	Fuel usage or hours of operation
EP-090-3	EU-090-SMELT-1	Crucible / Forge Furnaces	Hours of operation or fuel usage ^{4, 7}
EP-090-10	EU-090-KILN-1	Geil Kiln 1	Hours of operation or fuel usage ^{4, 7}
EP-090-11	EU-090-KILN-2	Geil Kiln 2	Hours of operation or fuel usage ^{4, 7}
EP-090-12	EU-090-KILN-3	Geil Kiln 3	Hours of operation or fuel usage ^{4, 7}
EP-090-13	EU-090-KILN-4	Geil Kiln 4	Hours of operation or fuel usage ^{4, 7}
EP-090-14	EU-090-KILN-5	Geil Kiln 5	Hours of operation or fuel usage ^{4, 7}
EP-090-15	EU-090-KILN-6	Geil Kiln 6	Hours of operation or fuel usage ^{4, 7}
EP-090-16	EU-090-KILN-7	Geil Kiln 7	Hours of operation or fuel usage ^{4, 7}
EP-090-17	EU-090-KILN-8	Wood-Fired Kiln 1	Hours of operation or fuel usage ^{4, 7}
EP-090-18	EU-090-KILN-9	Wood-Fired Kiln 2	Hours of operation or fuel usage ^{4, 7}
EP-106-1	EU-106-GEN-1	Pharmacy Bldg Generator	Hours of operation or fuel usage or kW
EP-123-3	EU-123-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-2	EU-132-FUR-2	Furnace	Hours of operation or fuel usage
EP-132-3	EU-132-UH-1	Unit Heater	Hours of operation or fuel usage
EP-132-4	EU-132-UH-2	Unit Heater	Hours of operation or fuel usage
EP-137-1	EU-137-GEN-1	HRDP (West Campus) Parking Ramp – 130 kW Generator	Hours of operation or fuel usage
EP-149-1	EU-149-GEN-1	GFWC 50 kW Generator	Hours of operation or fuel usage
EP-160-19	EU-160-UH-3	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-21	EU-160-UH-4	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-22	EU-160-FUR-5	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-23	EU-160-FUR-6	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-24	EU-160-FUR-7	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-25	EU-160-FUR-8	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-26	EU-160-FUR-9	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-160-27	EU-160-FUR-10	MSSB Rooftop Furnace	Hours of operation or fuel usage
EP-186-1	EP-186-UH-1	Unit Heater	Hours of operation or fuel usage
EP-186-2	EP-186-UH-2	Unit Heater	Hours of operation or fuel usage
EP-186-3	EP-186-UH-3	Unit Heater	Hours of operation or fuel usage
EP-186-4	EP-186-UH-4	Unit Heater	Hours of operation or fuel usage
EP-186-5	EP-186-UH-5	Unit Heater	Hours of operation or fuel usage
EP-186-6	EP-186-UH-6	Unit Heater	Hours of operation or fuel usage
EP-187-3	EU-187-WH-1	Water Heater	Hours of operation or fuel usage
EP-240-4	EU-240-CT-3	Cooling Tower 3	Fuel usage or hours of operation
EP-317-3	EU-317-FUR-2	ITDC Furnace and AC	Hours of operation or fuel usage
EP-317-4	EU-317-FUR-3	ITDC Furnace and AC	Hours of operation or fuel usage
EP-337-5	EU-337-UH-2	Unit Heater	Hours of operation or fuel usage
EP-337-6	EU-337-UH-3	Unit Heater	Hours of operation or fuel usage
EP-347-3	EU-347-UH-3	Unit Heater	Hours of operation or fuel usage

EP-347-4	EU-347-UH-4	Unit Heater	Hours of operation or fuel usage
EP-358-4	EU-358-UH-4	Unit Heater	Hours of operation or fuel usage
EP-393-5	EU-393-UH-3	Unit Heater	Hours of operation or fuel usage
EP-395-1	EU-395-BLR-1	Hansen Football Performance Center Boiler #1	Fuel usage or hours of operation
EP-395-2	EU-395-BLR-2	Hansen Football Performance Center Boiler #2	Fuel usage or hours of operation
EP-395-3	EU-395-BLR-3	Hansen Football Performance Center Boiler #3	Fuel usage or hours of operation
EP-435-3	EU-435-FUR-1	MTF Furnace	Hours of operation or fuel usage
EP-435-4	EU-435-FUR-2	MTF Furnace	Hours of operation or fuel usage
EP-435-5	EU-435-FUR-3	MTF Furnace	Hours of operation or fuel usage
EP-435-6	EU-435-FUR-4	MTF Furnace	Hours of operation or fuel usage
EP-435-7	EU-435-FUR-5	MTF Furnace	Hours of operation or fuel usage
EP-435-8	EU-435-FUR-6	MTF Furnace	Hours of operation or fuel usage
EP-435-9	EU-435-FUR-7	MTF Furnace	Hours of operation or fuel usage
EP-435-10	EU-435-FUR-8	MTF Furnace	Hours of operation or fuel usage
EP-435-11	EU-435-FUR-9	MTF Furnace	Hours of operation or fuel usage
EP-435-12	EU-435-FUR-10	MTF Furnace	Hours of operation or fuel usage
EP-435-13	EU-435-UH-1	MTF Unit Heater	Hours of operation or fuel usage
EP-436-6	EU-436-FUR-6	Furnace	Hours of operation or fuel usage
EP-436-7	EU-436-FUR-7	Furnace	Hours of operation or fuel usage
EP-436-8	EU-436-FUR-8	Furnace	Hours of operation or fuel usage
EP-436-9	EU-436-FUR-9	Furnace	Hours of operation or fuel usage
EP-436-10	EU-436-UH-1	Unit Heater	Hours of operation or fuel usage
EP-436-11	EU-436-UH-2	Unit Heater	Hours of operation or fuel usage
EP-436-12	EU-436-UH-3	Unit Heater	Hours of operation or fuel usage
EP-436-13	EU-436-UH-4	Unit Heater	Hours of operation or fuel usage
EP-436-14	EU-436-UH-5	Unit Heater	Hours of operation or fuel usage
EP-436-17	EU-436-UH-8	Unit Heater	Hours of operation or fuel usage
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	Fuel usage or hours of operation
EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4	Fuel usage or hours of operation
EP-441-19	EU-441-FUR-3	Laundry Building Roof Furnace #3 New Addition	Hours of operation or fuel usage
EP-457-5	EU-457-WH-3	Hawkeye Tennis Water Heater	Hours of operation or fuel usage
EP-457-6	EU-457-BLR-3	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-7	EU-457-BLR-4	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-8	EU-457-BLR-5	Hawkeye Tennis Boiler	Hours of operation or fuel usage
EP-457-10	EU-457-GEN-1	HTRC Emergency Generator	Fuel usage or hours of operation
EP-478-2	EU-478-BLR-2	Advanced Services Building Hot Water Boiler #1	Fuel usage or hours of operation
EP-478-3	EU-478-BLR-3	Advanced Services Building Hot Water Boiler #1	Fuel usage or hours of operation
EP-674-1	EU-674-BLR-1	Boiler 1 NG and Fuel Oil 22.1 MMBtu/hr	Fuel usage or hours of operation
	EU-674-BLR-2B	Boiler 2B NG and Fuel Oil 10 MMBtu/hr	
	EU-674-BLR-3	Boiler 3 NG and Fuel Oil 10 MMBtu/hr	

EP-674-4	EU-674-GEN-1	Emergency Diesel Generator West 600 kW	Fuel usage or hours of operation
EP-674-5	EU-674-GEN-2	Emergency Diesel Generator East 800 kW	Fuel usage or hours of operation

¹ If hours of operation are recorded, the fuel combusted during that time shall be assumed to be the hours of operation multiplied by the maximum fuel usage of the unit.

² For small (10 mmbtu/hr or less capacity) natural gas-fired external combustion units (e.g., boilers, heaters and furnaces) monitoring by fuel usage, the facility may choose to track natural gas usage of the entire facility, minus usage due to generators, and large (greater than 10 mmbtu/hr capacity) external combustion units, in lieu of individual usage records.

³ Emissions from this unit are accounted for under the Hurst Boiler, EU 239-BLR-5.

⁴ The facility may assume the unit is operated at maximum capacity for 2,080 hours per year, and calculate the emissions on that basis.

⁵ The facility shall keep records of the unit's monthly usage or hours of operation. For every month of missing or invalid data, the facility will fill in the usage data based on the maximum value recorded during the previous 12-month period, if there is at least 11 months of data collected during that previous 12 month period. The facility may exclude usage due to operation for emergency purposes, including power failures, in determining the maximum value recorded. However, if the month of missing data includes an emergency situation, the facility shall assume maximum material usage during the time of any emergency situation, and add that calculated usage to the maximum value recorded during the previous 12-month period.

⁶ If usage or hours of operation is monitored and recorded on a daily basis, the following missing data procedures apply: For every day of missing or invalid data, the facility will fill in the usage data based on the amount of missing data. If less than 10% of the days for a given month have missing data, the missing days shall be filled using the average of the 7 days immediately preceding and 7 days immediately following the missing period. If 10% or more of the days for a given month are missing data, the data shall be filled in using the maximum daily fuel usage recorded during that month.

⁷ For monitoring purposes, the facility shall complete required monitoring set forth in the applicable recordkeeping requirement.

Authority for Requirements: 567 IAC 24.108(14)

Emission Unit Recordkeeping Requirements

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Recordkeeping Requirements for PM, PM₁₀, PM_{2.5}

Significant Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
EP-PP06	EU-PP06	Boiler 10	EF/Fuel usage ^{1, 2}
EP-PP07	EU-PP07	Boiler 11	EF/Fuel usage ^{1, 2}

¹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by multiplying monthly solid fuel used by the emission factor(s) as determined by the most recent available stack test. This sum shall be calculated on a monthly basis.

- The stack test performed June 21, 2012 shall be used to calculate PM_{2.5}, PM₁₀, and PM emissions when combusting coal alone for Boiler 10 until a more recent stack test is available.
- The stack test performed April 28, 2014 shall be used to calculate PM_{2.5}, PM₁₀, and PM emissions when combusting coal alone for Boiler 11 until a more recent stack test is available.
- When combusting biomass, the most recent representative stack test for the biomass type shall be used to determine the emission factor for PM_{2.5}, PM₁₀, and PM.

² Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions from natural gas shall be calculated by multiplying the natural gas by an emission factor of 7.6 lb/mm scf. This sum shall be calculated on a monthly basis.

Small Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
Various	Various	Natural gas-fired external combustion units	Fuel usage ¹
Various	Various	Natural gas-fired generators (fuel usage records)	Fuel usage ²
Various	Various	Natural gas-fired generators (hours of operation)	Hours of operation/unit maximum capacity ³
Various	Various	Natural gas-fired generators (Kilowatts)	Kilowatts/hour ⁴
Various	Various	Diesel generators (fuel usage records)	Fuel usage ⁵
Various	Various	Diesel generators (hours of operation)	Hours of operation/unit maximum capacity ⁶
Various	Various	Diesel generators (Kilowatts)	Kilowatts/hour ⁷
EP-204-1	EU-204-INC-1A	Crematorium	EF/Fuel usage ⁸
EP-239-1	EU-239-BLR-5	Hurst Boiler	EF/Fuel usage ⁹
Various	Various	Cooling towers	TDS ¹⁰
Various	Various	Power plant haul roads	VMT, Average vehicle weight ¹¹
EP-PP35	EU-PP35	Shot blast	EF/Material usage ¹²
EP-022-2	EU-022-BEAD-1	Engineering Building Bead Blaster	
EP-PP45	EU-PP45	Central Vacuum system	Hours of operation ¹³
EP-PP10	EU-PP10	Fuel Silo #1	EF/Material usage ¹⁴
EP-PP11	EU-PP11	Fuel Silo #2	
EP-PP12	EU-PP12	Fuel Silo #3	
EP-PP08	EU-PP08	Fuel Crusher #1	EF/Material usage ¹⁵
EP-PP09	EU-PP09	Fuel Crusher #2	
EP-PP30	EU-PP30	Minibunker 11	
EP-PP31	EU-PP31	Fuel Crusher #3	
EP-PP32	EU-PP32	Fuel Crusher #4	
EP-PP48	EU-PP48	South Conveyor Enclosure	
EP-PP49	EU-PP49	Transfer Conveyor Enclosure	
EP-PP50	EU-PP50	Conveyor Discharge Enclosure	
EP-PP13	EU-PP13	Limestone Storage Silo	EF/Material usage ¹⁶
EP-185-3	EU-185-LIME-2	North Lime Bin	
EP-185-4	EU-185-LIME-3	South Lime Bin	
Fugitive	EU-F-185-LIME-2	Lime Loading (Pneumatic)	
EP-PP53	EU-PP53	Dry Sorbent Injection Silo #1	
EP-PP54	EU-PP54	Dry Sorbent Injection Silo #2	

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
EP-PP14A1 EP-PP14A2 EP-PP14B	EU-PP14A1, EU-PP14A2, EU-PP14B	Ash Silo Exhaust Ash Truck Loading Exhaust Ash Conveying Exhaust	EF/Material usage ¹⁷
EP-PP40 EP-PP41 EP-239-4 EP-239-5	EU-PP40 EU-PP41A EU-PP41B EU-239-DRC-1 EU-239-DRC-2	Biomass Silo Dust Collector Biomass Unloading and Conveying Hurst Boiler Biomass Fuel Unloading Ag Fuel Storage Bin	EF/Material usage ¹⁸
EP-15 *EP-160-20	EU15-1 EU-160-PNT-1	Boyd Tower Paint Booth Paint Booth at MMSB	EF/Paint usage ¹⁹
EP-090-2 EP-090-5 EP-090-7 EP-090-8 EP-090-9 EP-120-2	EU-090-PNT-1 EU-090-PNT-2 EU-090-PNT-3 EU-090-PNT-4 EU-090-PNT-5 EU-120-PNT-1	Woodshop Paint Booth Ceramics Paint Booth Metals Benchtop Paint Booth Printmaking Paint Booth Shared Spaces Paint Booth Hancher Paint Booth	EF/Material usage ²⁰
Fugitive	Various	Wood Shops	EF/Material usage ²¹
EP-PP28	EU-PP28	Fuel Unloading Pit	EF/Material usage ²²
EP-006-4 to EP-006-7	EU-006-TAB-1 through EU-006- TAB-7	Pharmacy Tablet Manufacturing	EF/Material usage ²³
*EP-PP46 Fugitive EP-239-4	EU-PP46 EU-PP51 EU-239-BRN-1	Brine Tank Boilers T1 and T2 Brine Tank Oakdale Brine Tank	EF/Material usage ²⁴
EP-090-6 EP-090-4	EU-090-MIX-1 EU-090- PLASTIC-1	Clay Mixing Area Ceramic Shell	EF/Material usage ²⁵
Fugitive	EU-F-SALT EU-F-SAND	Salt Pile (inside) Sand Pile (inside)	Material usage ²⁶
Various	Various	Welding	EF/Weld rod usage ²⁷
Various	Various	Propane-fired external combustion units	EF/Material usage ²⁸
Various	Various	Wood Fired Kilns	EF/Material usage ²⁹

¹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly natural gas usage used in the unit multiplied by an emission factor of 7.6 lb/mm scf, if no stack test for the unit is available. This sum shall be calculated on a monthly basis.

² If records are kept by fuel usage, particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor of 9.987x10⁻³ lb/mm btu. This sum shall be calculated on a monthly basis.

³ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor of 9.987x10⁻³ lb/mm btu. This sum shall be calculated on a monthly basis.

⁴ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hours. The fuel usage shall be calculated based on the fuel consumption data based on load available from the

manufacturer. If percent load is used instead, the facility shall round up to the next available consumption load rate. Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor of 9.987×10^{-3} lb/MMBtu. This sum shall be calculated on a monthly basis.

⁵ If records are kept by fuel usage, particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly diesel usage used in the emission units multiplied by an emission factor based on a stack test if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the PM standard from that subpart. Other units shall use:

- for PM_{2.5}, an emission factor of 0.0556 lb/MMBtu;
- for PM₁₀, an emission factor of 0.0573 lb/MMBtu;
- for PM, an emission factor of 0.0697 lb/MMBtu,

for units > 600 hp, or 0.31 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁶ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the PM standard from that subpart. Other units shall use:

- for PM_{2.5}, an emission factor of 0.0556 lb/MMBtu;
- for PM₁₀, an emission factor of 0.0573 lb/MMBtu;
- for PM, an emission factor of 0.0697 lb/MMBtu,

for units > 600 hp, or 0.31 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁷ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hours. The fuel usage shall be calculated based on the fuel consumption data based on load available from the manufacturer. If percent load is used instead, the facility shall round up to the next available consumption load rate. Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the PM standard from that subpart. Other units shall use:

- for PM_{2.5}, an emission factor of 0.0556 lb/MMBtu;
- for PM₁₀, an emission factor of 0.0573 lb/MMBtu;
- for PM, an emission factor of 0.0697 lb/MMBtu,

for units > 600 hp, or 0.31 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁸ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly amount of pathological waste combusted multiplied by an emission factor of 4.67 lb/ton. This sum shall be calculated on a monthly basis.

⁹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly amount of fuel combusted in the emission unit multiplied by an emission factor from the most recent stack test which includes both filterable and condensable emissions. This sum shall be calculated on a monthly basis.

¹⁰ For cooling towers that have permits requiring TDS sampling, particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated monthly using the sampling result for the emission factor. For cooling towers that do not have TDS sampling requirements in the permit, the TDS emission factor shall be calculated as noted in the Monitoring Requirements section. The facility shall keep records of the unit's TDS sampling. For every period of missing or invalid data, the facility will fill the usage data based on the maximum value recorded during the previous 12-month period. Alternatively, in the absence of TDS

sampling, a maximum TDS content of 2,000 ppm may be assumed for cooling towers located at the Main campus and a maximum TDS content of 3,400 ppm may be assumed for cooling towers located at the Oakdale campus.

¹¹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions using the formula given in AP-42 Chapter 13.2.1 shall be calculated monthly. A silt loading factor of 10 g/m² may be assumed to represent the power plant roads. Alternatively, representative portions of the power plant roads may be tested for silt content once every three months. If two years of data collection show less than 10% variation between tests, the average of the tests may be used instead as a silt loading factor. VMT may be calculated using the route that each truck type travels times the number of each truck type used, and the average truck weight may be assumed to be 30 tons if not otherwise known.

¹² Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor as determined by a stack test. Alternatively, the facility may assume 0.01 tons per year are emitted from each of these listed blasting units.

¹³ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated using either an emission factor (as determined by a stack test) or an assumed emission rate of 0.01 gr/scf, for each hour of operation. Alternatively, the facility may assume 0.05 tons per year are emitted from this unit.

¹⁴ The stack test performed June 30 and July 1, 2015 shall be used to calculate particulate matter (PM_{2.5}, PM₁₀, and PM) emissions for these units if a more recent stack test from one of these comparable units which includes both filterable and condensable emissions is not available. PM emissions shall be calculated by the sum of the monthly amount of material usage by an emission factor from the most recent stack test. This sum shall be calculated on a monthly basis.

¹⁵ The stack test performed March 13, 2013 for EP-PP50 shall be used to calculate particulate matter (PM_{2.5}, PM₁₀, and PM) emissions for these units if a more recent stack test from one of these comparable units which includes both filterable and condensable emissions is not available. PM emissions shall be calculated by the sum of the monthly amount of material usage by an emission factor from the most recent stack test. This sum shall be calculated on a monthly basis.

¹⁶ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.0038 lb/ton if an emission factor from a stack test is not available.

¹⁷ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.0033 lb/ton if an emission factor from a stack test is not available.

¹⁸ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.00124 lb/ton if an emission factor from a stack test is not available.

¹⁹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by either multiplying the paint usage by the emission factor as determined by a stack test for the unit type, or else by an assumed emissions rate calculated by multiplying the gallons of paint used times the density of the paint and an assumed control efficiency of 95%. If individual paint records are not available, assume a density of 9.2 lb/gallons.

²⁰ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by either multiplying the paint usage by the emission factor as determined by a stack test for the unit type, or else by an assumed emissions rate calculated by multiplying the gallons of paint used times the density of the paint and an assumed control efficiency of 95%. If individual paint records are not available, assume a density of 9.2 lb/gallons. Alternatively for paint booths exempt from construction permitting, emissions can be calculated by multiplying the booth airflow by 0.01 gr/scf, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate emissions on that basis.

²¹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor as determined by the stack test for a woodworking unit. Alternatively, the facility may assume 0.5 tons per year of PM are emitted each woodworking source.

²² Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.006 lb/ton if an emission factor from a stack test is not available.

²³ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis either by multiplying the material usage by the emission factor as determined by a stack test for the unit, or else by multiplying the hours of operation by an assumed emission rate of 0.012 lb/hr for each hour of operation from EU-006-TAB-1 and an assumed emissions rate of 0.0022 lb/hr for EU-006-TAB-2 through EU-006-TAB-7. If hours of operation are monitored, for each period of missing data, the data shall be filled assuming 24 hours per day of operation.

²⁴ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.02 lb/ton if an emission factor from a stack test is not available. Alternatively, the facility may assume 0.01 tons per year of PM are emitted each brine tank.

²⁵ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor as determined by the stack test for each unit. Alternatively, the facility may assume 0.01 tons per year of PM are emitted from each ceramic art department source.

²⁶ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor of 0.0028 lb/ton. Alternatively, the facility may assume 0.01 tons per year of PM are emitted each of the piles.

²⁷ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by the emission factor as determined by the stack test for a welding unit, or based on the emission factors of AP42 Chapter 12.19. Alternatively, the facility may assume 0.05 tons per year of PM are emitted from each welding source.

²⁸ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly propane usage used in the emission unit multiplied by an emission factor of 0.84 lb/1000 gallons. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

²⁹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by:

- for PM_{2.5}, an emission factor of 0.447 lb/MMBtu;
- for PM₁₀, an emission factor of 0.517 lb/MMBtu;
- for PM, an emission factor of 0.577 lb/MMBtu.

This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

Authority for Requirements: DNR Construction Permit 16-A-047-PAL1 (PM_{2.5} PAL)
DNR Construction Permit 16-A-046-PAL1 (PM₁₀ PAL)
DNR Construction Permit 16-A-045-PAL1 (PM PAL)

The PM_{2.5}, PM₁₀, and PM recordkeeping requirements also apply to all PM_{2.5}, PM₁₀, and PM-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 24.108(3)

The small emission unit listed below has been added at the facility since the updated PAL permits were issued December 6, 2018. Recordkeeping is required in accordance with the PM_{2.5}, PM₁₀, and PM PAL permits.

EP ID	EU ID	EU Description	Recordkeeping Requirements
EP-106-2	EU-106-PMPU-1	Pharmaceutical Manufacturing Process Unit	EF/Material usage ¹

¹ Particulate matter (PM_{2.5}, PM₁₀, and PM) emissions shall be calculated on a monthly basis either by multiplying the material usage by the emission factor as determined by a stack test for the unit, or else by multiplying the hours of operation by an assumed emission rate of 0.0018 lb/hr for each hour of operation. If hours of operation are monitored, for each period of missing data, the data shall be filled assuming 24 hours per day of operation.

Authority for Requirement: 567 IAC 24.108(14)

Recordkeeping Requirements for VOC

Small Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
EP-PP06 EP-PP07	EU-PP06 EU-PP07	Boiler 10 Boiler 11	Fuel usage ^{1, 2}
Various	Various	Natural gas-fired external combustion units	Fuel usage ²
Various	Various	Natural gas-fired generators (fuel usage records)	Fuel usage ³
Various	Various	Natural gas-fired generators (hours of operation)	Hours of operation/unit maximum capacity ⁴
Various	Various	Natural gas-fired generators (Kilowatts)	Kilowatts/hour ⁵
Various	Various	Diesel generators (fuel usage records)	Fuel usage ⁶
Various	Various	Diesel generators (hours of operation)	Hours of operation/unit maximum capacity ⁷
Various	Various	Diesel generators (Kilowatts)	Kilowatts/hour ⁸
Various	Various	Tanks	Material usage ⁹
EP-204-1	EU-204-INC-1A	Crematorium	Fuel usage ¹⁰
EP-239-1	EU-239-BLR-5 EU-239-GSFR-1	Hurst Boiler AgBioPower Gasifier	Fuel usage ¹¹
Various	Various	Propane-fired units	Fuel usage ¹²
Various	Various	Part Washers	Material usage ¹³
Various	Various	Cutting Torches	Material usage ¹⁴
Various	Various	Cooling Towers	Material usage ¹⁵
Various	Various	Spray Booths	Material usage ¹⁶
EP-241-1 EP-241-2 EP-241-3 EP-241-4 EP-241-5 EP-241-6 Fugitive	EU-241-CT-1 EU-241-CT-2 EU-241-CT-3 EU-241-CT-4 EU-241-N-1 EU-241-N-2 EU-241-ST-1 EU-241-VU-1 EU-F-241-EMF	Environmental Management Facility Walk-in Fume Hood Walk-in Fume Hood Walk-in Fume Hood Walk-in Fume Hood Waste Storage Facility- Neutralization Waste Storage Facility- Neutralization Waste Storage Facility- Sorting Table Waste Storage Facility- Vyleater Unit EMF – Oakdale Storage	Material usage ¹⁷
EP-006-4 EP-006-5 EP-006-6 EP-006-7	EU-006-TAB-1 through EU-006-TAB-7	Pharmacy Tablet Manufacturing Rooms	Material usage ¹⁸
*EP-490-21	EU-490-PLASTIC-1	Ceramic Shell within Sculpture DC System	Material usage ¹⁹
*EP-14	EU14-1	JCP Sterilizing Services	Material usage ²⁰
Various	Various	Wood Fired Kilns	Material usage ²¹

¹ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the fuel usage multiplied by an emission factor (per fuel type) determined by the stack test performed March 26-27, 2003, if a more recent stack test is not available. This sum shall be calculated on a monthly basis. When combusting biomass, the most recent representative stack test for the biomass type shall be used to

determine the emission factor for particulate matter. If no stack test is available for the biomass type, emissions shall be calculated by the sum of the monthly amount of a biomass type combusted multiplied by an emission factor of 0.020 lb/MMBtu.

² Volatile organic compounds (VOC) emissions shall be calculated by the sum of the natural gas usage multiplied by an emission factor of 6.6 lb/mmcf, if no stack test data for the unit is available. This sum shall be calculated on a monthly basis.

³ If records are kept by fuel usage, volatile organic compounds (VOC) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.14 lb/MMBtu. This sum shall be calculated on a monthly basis.

⁴ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Volatile organic compounds (VOC) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.14 lb/MMBtu. This sum shall be calculated on a monthly basis.

⁵ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data based on load available from the manufacturer. If percent of load is used instead, the facility shall round up to the next available consumption load rate. Volatile organic compounds (VOC) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.14 lb/MMBtu. This sum shall be calculated on a monthly basis.

⁶ If records are kept by fuel usage, volatile organic compound (VOC) emissions shall be calculated by the sum of the monthly diesel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.10 lb/MMBtu for units > 600 hp or 0.42 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁷ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Volatile organic compounds (VOC) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units (in gallons) multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.10 lb/MMBtu for units > 600 hp or 0.42 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁸ If records are kept by kilowatts produced, the facility shall keep records of the kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data by load percentage available from the manufacturer. If percent of load is used, the facility shall round up to the next available load consumption rate. Volatile organic compounds (VOC) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units (in gallons) multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the VOC standard from that subpart. Other units shall use an emission factor of 0.10 lb/MMBtu for units > 600 hp or 0.42 lb/MMBtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁹ Volatile organic compounds (VOC) emissions shall be calculated through either the EPA's TANKS version 4.09D program or the equations specified in AP-42 Chapter 7. The TANKS program may be used

to calculate a tank specific emission factor for the material stored and multiplied by the monthly product usage. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume emissions of 10 lb VOC/yr per tank of less than 10,000 gallons capacity of diesel. Emissions from diesel tanks of 10,000 to 20,000 gallons may be assumed at 20 lb VOC/yr, and antifreeze tanks may assume emissions of 1 lb VOC/yr. The facility may assume an annual throughput of 200,000 gallons for tanks containing other products that do not require an individual construction permit, with the EPA's TANKS version 4.09D program used to evaluate emissions.

¹⁰ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of pathological waste combusted multiplied by an emission factor of 0.299 lb/ton. This sum shall be calculated on a monthly basis.

¹¹ Volatile organic compounds (VOC) emissions shall be calculated by the amount of biomass combusted multiplied by an emission factor of 0.020 lb/MMBtu, if no stack test data for the unit is available. This sum shall be calculated on a monthly basis.

¹² Volatile organic compounds (VOC) emissions shall be calculated by the sum of the fuel usage multiplied by an emission factor of 1.2 lb/1000 gallons if no stack test data for the unit is available. This sum shall be calculated on a monthly basis.

¹³ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of VOC-containing material used multiplied by the VOC-content of the material. Documented reclaimed material may be subtracted from the amount of material used. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume 0.60 tons VOC/yr for each parts washer. Parts washers that transition to VOC-free materials shall be noted as such following the requirements of the PAL Reopening conditions until such time as the PAL is updated.

¹⁴ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of VOC-containing material used multiplied by the VOC-content of the material. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume emissions of 20 lb VOC/yr per unit.

¹⁵ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of VOC-containing material used multiplied by the VOC-content of the material. Documented reclaimed material may be subtracted from the amount of material used. This sum shall be calculated on a monthly basis.

¹⁶ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of each VOC-containing material used multiplied by the VOC-content of each material, or alternatively the facility may track the total amount of any VOC-containing material used (paint or solvents) and assume the content for all is 9.5 lb VOC/gal. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2,080 hours per year and calculate the emissions on that basis.

¹⁷ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of each VOC-containing material processed multiplied by the VOC-content of each material. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume 1.92 ton VOC/yr for the Environmental Management Facility.

¹⁸ Volatile organic compounds (VOC) emissions shall be calculated per batch by multiplying the amount of VOC used in manufacturing a batch by the VOC loss factor, as determined by the owner or operator for each final product by material balance or other acceptable methodology. If no loss factor is determined for a final product, the VOC loss factor shall be 100% of the VOC used in a batch. 100% of any VOC-containing materials used in cleanup shall be assumed to be emitted. This sum shall be calculated on a monthly basis.

¹⁹ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of material used multiplied by an emission factor of 0.75 lb/ton, if no stack test data for the unit is available. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

²⁰ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the amount of VOC-containing material used multiplied by the VOC-content of the material. This sum shall be calculated on a monthly basis.

²¹ Volatile organic compounds (VOC) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by an emission factor of 0.020 lb/MMBtu. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

Authority for Requirements: DNR Construction Permit 16-A-049-PAL (VOC PAL)

*This unit has been removed since the PAL was issued March 24, 2016.

The VOC recordkeeping requirements also apply to all VOC-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 24.108(3)

The small emission unit listed below has been added at the facility since the PAL permit was issued March 24, 2016. Recordkeeping is required in accordance with the VOC PAL permit.

EP ID	EU ID	EU Description	Recordkeeping Requirements
EP-106-2	EU-106-PMPU-1	Pharmaceutical Manufacturing Process Unit	Material usage ¹

¹ Volatile organic compounds (VOC) emissions shall be calculated per batch by multiplying the amount of VOC used in manufacturing a batch by the VOC loss factor, as determined by the owner or operator for each final product by material balance or other acceptable methodology. If no loss factor is determined for a final product, the VOC loss factor shall be 100% of the VOC used in a batch. 100% of any VOC-containing materials used in cleanup shall be assumed to be emitted. This sum shall be calculated on a monthly basis.

Authority for Requirement: 567 IAC 24.108(14)

Recordkeeping Requirements for SO₂

Major Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
EP-PP06	EU-PP06	Boiler 10	CEM ¹
EP-PP07	EU-PP07	Boiler 11	CEM ^{1, 2}

¹ CEMS shall be used to calculate hourly average sulfur dioxide (SO₂) lb/hr emissions. A sum of hourly emission values shall be calculated on a monthly basis.

² Until the flowmeter is installed, the CEMS shall be used to calculate daily average lb/MMBtu emission rates. A daily fuel throughput in MMBtu/day is to be recorded daily. The product of the daily emission rate and daily fuel throughput shall be used to calculate daily sulfur dioxide (SO₂) emissions. A sum of daily emission values shall be calculated on a monthly basis.

Small Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
Various	Various	Natural gas-fired external combustion units	Fuel usage ¹
Various	Various	Natural gas-fired generators (fuel usage records)	Fuel usage ²
Various	Various	Natural gas-fired generators (hours of operation)	Hours of operation/unit maximum capacity ³
Various	Various	Natural gas-fired generators (Kilowatts)	Kilowatts/hour ⁴
Various	Various	Diesel generators (fuel usage records)	Fuel usage ⁵
Various	Various	Diesel generators (hours of operation)	Hours of operation/unit maximum capacity ⁶
Various	Various	Diesel generators (Kilowatts)	Kilowatts/hour ⁷
EP-204-1	EU-204-INC-1A	Crematorium	Fuel usage ⁸
EP-239-1	EU-239-BLR-5	Hurst Boiler	Fuel usage ⁹
*EP-490-9	EU-490-KILN-14	Propane-Fired Burnout Kiln	Material usage ¹⁰
Various	Various	Wood Fired Kilns	Material usage ¹¹

¹ Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the natural gas usage used in the emission units multiplied by an emission factor of 0.6 lb/mm scf, if no stack test for the unit is available. This sum shall be calculated on a monthly basis.

² If records are kept by fuel usage, sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor of 5.88E-04 lb/mmbtu. This sum shall be calculated on a monthly basis.

³ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor 5.88E-04 lb/mmbtu. This sum shall be calculated on a monthly basis.

⁴ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data based on load available from the manufacturer. If percent of load is used instead, the facility shall round up to the next available consumption load rate. Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Other units shall use an emission factor of 5.88E-04 lb/mmbtu. This sum shall be calculated on a monthly basis.

⁵ If records are kept by fuel usage, sulfur dioxide (SO₂) emissions shall be calculated by the sum of the diesel usage used in the emission units multiplied by an emission factor based on a stack test performed using fuel with a fuel sulfur content of 0.0015% by weight, if available for the unit. Other units shall calculate sulfur dioxide emission using a mass balance equation based on the sulfur content of the fuel. This sum shall be calculated on a monthly basis.

⁶ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly diesel usage used in the emission units multiplied by an emission factor based on a stack test performed using fuel with a fuel sulfur content of 0.0015% by weight, if available for the unit. Other units shall calculate sulfur dioxide emission using a mass balance equation based on the sulfur content of the fuel. This sum shall be calculated on a monthly basis.

⁷ If records are kept by kilowatts produced, the facility shall keep records of the kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data by load percentage available from the manufacturer. If percent of load is used, the facility shall round up to the next available load consumption rate. Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly diesel usage used in the emission units (in gallons) multiplied by an emission factor based on a stack test performed using fuel with a fuel sulfur content of 0.0015% by weight, if available for the unit. Other units shall calculate sulfur dioxide emission using a mass balance equation based on the sulfur content of the fuel. This sum shall be calculated on a monthly basis.

⁸ Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly amount cremated multiplied by an emission factor of 2.17 lb/ton. This sum shall be calculated on a monthly basis.

⁹ Sulfur dioxide (SO₂) emissions shall be calculated by the sum using a mass balance equation based on the amount and sulfur content of each solid fuel used. This sum shall be calculated on a monthly basis.

¹⁰ Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly propane usage used in the emission unit multiplied by an emission factor of 0.10 lb/1000 gallons. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

¹¹ Sulfur dioxide (SO₂) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by an emission factor of 0.025 lb/MMBtu. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

Authority for Requirements: DNR Construction Permit 16-A-048-PAL (SO₂ PAL)

*This unit has been removed since the PAL was issued March 24, 2016.

The SO₂ recordkeeping requirements also apply to all SO₂-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 24.108(3)

Recordkeeping Requirements for NO_x

Major Emission Units

EP ID	EU ID	EU Description	Recordkeeping Requirements
EP-PP06	EU-PP06	Boiler 10	CEM ¹
EP-PP07	EU-PP07	Boiler 11	CEM ^{1, 2}

¹ CEMS shall be used to calculate hourly average nitrogen oxide (NO_x) lb/hr emissions. A sum of hourly emission values shall be calculated on a monthly basis.

² Until the flowmeter is installed, the CEMS shall be used to calculate daily average lb/mmmbtu emission rates. A daily fuel throughput in mmmbtu/day is to be recorded daily. The product of the daily emission rate and daily fuel throughput shall be used to calculate daily nitrogen oxide (NO_x) emissions. A sum of daily emission values shall be calculated on a monthly basis.

Significant Emission Units

EP ID	EU ID	EU Description	Recordkeeping Requirements
EP-PP03	EU-PP03	Boiler 7	CEM ¹ /Fuel Usage
EP-PP04	EU-PP04	Boiler 8	CEM ¹ /Fuel Usage

¹ CEMS shall be used to calculate daily average lb/mmBtu nitrogen oxide (NO_x) emissions. The product of the daily emissions rate and daily fuel usage shall be used to calculate daily emissions. A sum of daily emissions values shall be calculated on a monthly basis.

Small Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
Various	Various	Natural gas-fired external combustion units	Fuel usage ¹
Various	Various	Natural gas-fired generators (fuel usage records)	Fuel usage ²
Various	Various	Natural gas-fired generators (hours of operation)	Hours of operation/unit maximum capacity ³
Various	Various	Natural gas-fired generators (Kilowatts)	Kilowatts/hour ⁴
Various	Various	Diesel generators (fuel usage records)	Fuel usage ⁵
Various	Various	Diesel generators (hours of operation)	Hours of operation/unit maximum capacity ⁶
Various	Various	Diesel generators (Kilowatts)	Kilowatts/hour ⁷
EP-204-1	EU-204-INC-1A	Crematorium	Fuel usage ⁸
EP-239-1	EU-239-BLR-5	Hurst Boiler	Fuel usage ⁹
*EP-490-9	EU-490-KILN-14	Propane-Fired Burnout Kiln	Material usage ¹⁰
Various	Various	Wood Fired Kilns	Material usage ¹¹

¹ Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the natural gas usage used in the emission units multiplied by an emission factor of 100 lb/mmBtu, if no stack test for the unit is available. This sum shall be calculated on a monthly basis.

² If records are kept by fuel usage, nitrogen oxide (NO_x) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 4.08 lb/mmBtu. This sum shall be calculated on a monthly basis.

³ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 4.08 lb/mmBtu. This sum shall be calculated on a monthly basis.

⁴ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data based on load available from the manufacturer. If percent of load is used instead, the facility shall round up to the next available consumption load rate. Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their

calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 4.08 lb/mmbtu. This sum shall be calculated on a monthly basis.

⁵ If records are kept by fuel usage, nitrogen oxide (NO_x) emissions shall be calculated by the sum of the diesel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 3.2 lb/mmbtu for units > 600 hp or 4.41 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁶ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 3.2 lb/mmbtu for units > 600 hp or 4.41 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁷ If records are kept by kilowatts produced, the facility shall keep records of the kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data by load percentage available from the manufacturer. If percent of load is used, the facility shall round up to the next available load consumption rate. Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the NO_x standard from that subpart. Other units shall use an emission factor of 3.2 lb/mmbtu for units > 600 hp or 4.41 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁸ Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the monthly amount cremated multiplied by an emission factor of 3.56 lb/ton. This sum shall be calculated on a monthly basis.

⁹ The stack tests performed November 5, 2014 shall be used to calculate NO_x emissions if a more recent stack test is not available. NO_x emissions shall be calculated by the sum of the monthly amount of biomass multiplied by an emission factor from the most recent stack test. This sum shall be calculated on a monthly basis.

¹⁰ Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the monthly propane usage used in the emission unit multiplied by an emission factor of 13 lb/1,000 gallons. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2,080 hours per year and calculate the emissions on that basis.

¹¹ Nitrogen oxide (NO_x) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by an emission factor of 0.49 lb/MMBtu. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2,080 hours per year and calculate the emissions on that basis.

Authority for Requirements: DNR Construction Permit 16-A-044-PAL (NO_x PAL)

*This unit has been removed since the PAL was issued on March 24, 2016.

The NO_x recordkeeping requirements also apply to all NO_x-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 24.108(3)

Recordkeeping Requirements for CO

Major Emission Units

EP ID	EU ID	EU Description	Recordkeeping Requirements
EP-PP06	EU-PP06	Boiler 10	CEM ¹
EP-PP07	EU-PP07	Boiler 11	Material usage ^{2, 3, 4}

¹ CEMS shall be used to calculate hourly average carbon monoxide (CO) lb/hr emissions. A sum of hourly emission values shall be calculated on a monthly basis.

² Carbon dioxide (CO) emissions shall be calculated by multiplying monthly solid fuel used by the emission factor(s) as determined by the most recent comparable stack test. This sum shall be calculated on a monthly basis.

- The stack test performed October 2, 2007 shall be used to calculate CO emissions when combusting coal alone for Boiler 11 until a more recent stack test is available.
- When combusting biomass, the most recent representative stack test for the biomass type shall be used to determine the emission factor for particulate matter.

³ Carbon Monoxide (CO) emissions from natural gas shall be calculated by multiplying the natural gas by an emission factor of 84 lb/mmcf. This sum shall be calculated on a monthly basis.

⁴ If a CEM is installed in the future, the facility shall meet the requirements of footnote 1.

Small Emission Units

EP ID	EU(s) ID	EU Description	Recordkeeping Requirements
Various	Various	Natural gas-fired external combustion units	Fuel usage ¹
Various	Various	Natural gas-fired generators (fuel usage records)	Fuel usage ²
Various	Various	Natural gas-fired generators (hours of operation)	Hours of operation/unit maximum capacity ³
Various	Various	Natural gas-fired generators (Kilowatts)	Kilowatts/hour ⁴
Various	Various	Diesel generators (fuel usage records)	Fuel usage ⁵
Various	Various	Diesel generators (hours of operation)	Hours of operation/unit maximum capacity ⁶
Various	Various	Diesel generators (Kilowatts)	Kilowatts/hour ⁷
EP-204-1	EU-204-INC-1A	Crematorium	Fuel usage ⁸
EP-239-1	EU-239-BLR-5	Hurst Boiler	Fuel usage ⁹
Various	Various	Propane-fired external combustion units	Material usage ¹⁰
Various	Various	Wood Fired Kilns	Material usage ¹¹

¹ Carbon monoxide (CO) emissions shall be calculated by the sum of the natural gas usage used in the emission units multiplied by an emission factor of 84 lb/mmcf, if no stack test for the unit is available. This sum shall be calculated on a monthly basis.

² If records are kept by fuel usage, carbon monoxide (CO) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.557 lb/mmbtu. This sum shall be calculated on a monthly basis.

³ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation.

Carbon monoxide (CO) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.557 lb/mmbtu. This sum shall be calculated on a monthly basis.

⁴ If records are kept by kilowatts produced, the facility shall keep records of kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data based on load available from the manufacturer. If percent of load is used instead, the facility shall round up to the next available load consumption rate. Carbon monoxide (CO) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart JJJJ may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.557 lb/mmbtu. This sum shall be calculated on a monthly basis.

⁵ If records are kept by fuel usage, carbon monoxide (CO) emissions shall be calculated by the sum of the diesel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.84 lb/mmbtu for units > 600 hp or 0.95 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁶ If records are kept by hours of operation, the facility shall keep records of the unit's maximum fuel capacity, and fuel usage shall be calculated assuming maximum rated capacity for each hour of operation. Carbon monoxide (CO) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.84 lb/mmbtu for units > 600 hp or 0.95 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁷ If records are kept by kilowatts produced, the facility shall keep records of the kilowatts produced per hour. The fuel usage shall be calculated based on the fuel consumption data by load percentage available from the manufacturer. If percent of load is used, the facility shall round up to the next available load consumption rate. Carbon monoxide (CO) emissions shall be calculated by the sum of the calculated fuel usage used in the emission units (in gallons) multiplied by an emission factor based on a stack test, if available for the unit. Units that have not been stack tested but are subject to NSPS Subpart IIII may base their calculated emissions on the CO standard from that subpart. Other units shall use an emission factor of 0.84 lb/mmbtu for units > 600 hp or 0.95 lb/mmbtu for units ≤ 600 hp. This sum shall be calculated on a monthly basis.

⁸ Carbon monoxide (CO) emissions shall be calculated by the sum of the monthly amount cremated multiplied by an emission factor of 2.95 lb/ton. This sum shall be calculated on a monthly basis.

⁹ The stack tests performed November 5, 2014 shall be used to calculate carbon monoxide (CO) emissions if a more recent stack test is not available. CO emissions shall be calculated by the sum of the monthly amount of biomass multiplied by an emission factor from the most recent stack test. This sum shall be calculated on a monthly basis.

¹⁰ Carbon monoxide (CO) emissions shall be calculated by the sum of the monthly propane usage used in the emission unit multiplied by an emission factor of 7.5 lb/1,000 gallons. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2,080 hours per year and calculate the emissions on that basis.

¹¹ Carbon monoxide (CO) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by an emission factor of 0.66 lb/MMBtu. This sum shall be calculated on a monthly basis. Alternatively, the facility may assume the unit is run at maximum capacity for 2080 hours per year and calculate the emissions on that basis.

Authority for Requirements: DNR Construction Permit 16-A-043-PAL1 (CO PAL)

The CO recordkeeping requirements also apply to all CO-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 24.108(3)

Monitoring Requirements

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

Stack Testing Requirements for PM_{2.5}, PM₁₀, PM

Significant Emission Units

Stack Testing for EP-PP06 (Boiler 10) and EP-PP07 (Boiler 11):

Pollutant – Particulate Matter (PM_{2.5})^{1, 2}

Test Method – 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement: DNR Construction Permit 16-A-047-PAL1 (PM_{2.5} PAL)

Pollutant – Particulate Matter (PM₁₀)^{1, 2}

Test Method – 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement: DNR Construction Permit 16-A-046-PAL1 (PM₁₀ PAL)

Pollutant – Particulate Matter (PM)^{1, 2}

Test Method – 40 CFR 60, Appendix A, Method 5

40 CFR 51, Appendix M, Method 202

Authority for Requirement: DNR Construction Permit 16-A-045-PAL1 (PM PAL)

¹ An initial stack test combusting coal alone is required by July 31, 2017. Subsequent annual stack tests must be completed no more than 13 months after the previous performance test. The required subsequent annual stack tests shall be coal alone if it has been combusted for more than 20% of the normal operating days on solid fuels in the previous 12 months. Otherwise the facility may test the solid fuel or fuel mixture that was most frequently combusted in the previous 12 months instead.

- For PM_{2.5} and PM₁₀: If the performance tests of the same solid fuel or fuel mixture for PM₁₀, for at least 2 (two) consecutive years show that the emissions are at or below 75 percent of the emission limit from the NESHAP Subpart DDDDD for filterable PM for the unit, and if there are no changes in the operation of Boiler 10 or 11 (including majority solid fuel burned), the frequency may be decreased to once every third year, in which case each test must be conducted no more than 37 months after the previous performance test.
- For PM: If the performance tests of the same solid fuel or fuel mixture for filterable PM for at least 2 (two) consecutive years show that the emissions are at or below 75 percent of the emission limit from the NESHAP Subpart DDDDD for filterable PM for the unit, and if there are no changes in the operation of Boiler 10 or 11 (including majority solid fuel burned), the frequency may be decreased to once every third year, in which case each test must be conducted no more than 37 months after the previous performance test.

² Initial stack test required for each type of biomass not previously combusted in Boiler 10 or 11. For types of biomass that have had an initial stack test for PM_{2.5}, PM₁₀, or PM in Boiler 10 or 11, a new stack test shall be conducted within 120 days from when the facility has increased the biomass combusted by more than 10% of heat input from a rate previously tested. The most recent stack test performed for each type of biomass shall be used to calculate PM_{2.5}, PM₁₀, and PM emissions for that percent of heat input for biomass. If a more representative stack test is available within 10% of the highest percentage tested, it should be used. Alternatively, the stack test with the highest PM_{2.5}, PM₁₀, and PM emission rate may be used for calculating emissions for the respective pollutant for any percentage of each type of biomass combusted.

Small Emission Units

EP ID	EU ID	EU Description	Compliance Methodology
Various	Various	Cooling towers	TDS sampling ¹

¹ TDS sampling requirements shall be as required per a unit's specific permit. For cooling towers that are unpermitted or do not have TDS sampling requirements in their permit, TDS levels shall be tested every 3 months per cooling tower (not applicable if a TDS-calibrated electrical conductivity system is in place). If two years of data collection show less than 10% variation between tests, the average of the TDS tests may be used thereafter for the emission factor. Alternatively, in the absence of TDS sampling, a maximum TDS content of 2,000 ppm may be assumed for cooling towers located at the Main campus and a maximum TDS content of 3,400 ppm may be assumed for cooling towers located at the Oakdale campus.

Authority for Requirement: DNR Construction Permit 16-A-047-PAL1 (PM_{2.5} PAL)
DNR Construction Permit 16-A-046-PAL1 (PM₁₀ PAL)
DNR Construction Permit 16-A-045-PAL1 (PM PAL)

Stack Testing Requirements for CO

Stack Testing for EP-PP07 (Boiler 11)

Pollutant – Carbon Monoxide (CO) ^{1, 2, 3}

Test Method – 40 CFR 60, Appendix A, Method 10

Authority for Requirement: DNR Construction Permit 16-A-043-PAL1 (CO PAL)

¹ An initial stack test combusting coal alone is required by July 31, 2017. Subsequent annual stack tests must be completed no more than 13 months after the previous performance test. The required subsequent annual stack tests shall be coal alone if it has been combusted for more than 20% of the normal operating days on solid fuels in the previous 12 months. Otherwise the facility may test the solid fuel or fuel mixture that was most frequently combusted in the previous 12 months instead. If the performance tests of the same solid fuel or fuel mixture for CO for at least 2 (two) consecutive years show that the emissions are at or below 75 percent of the emission limit from the NESHAP Subpart DDDDD for carbon monoxide for the unit, and if there are no changes in the operation of Boiler 11 (including majority solid fuel burned), the frequency may be decreased to once every third year, in which case each test must be conducted no more than 37 months after the previous performance test.

² Initial stack test required for each type of biomass not previously combusted in Boiler 11, within 120 days of commencing combustion. For types of biomass that have had an initial stack test for CO in Boiler 11, a new stack test shall be conducted within 120 days from when the facility has increased the biomass

combusted by more than 10% of heat input from a rate previously tested. The most recent stack test performed for each type of biomass shall be used to calculate CO emissions for that percent of heat input for biomass. If a more representative stack test is available within 10% of the highest percentage testing, it should be used. Alternatively, the stack test with the highest CO emission rate may be used for calculating emissions for any percentage of each type of biomass.

³ The facility may replace the stack testing requirement with the installation and operation of a CO CEM. Authority for Requirement: DNR Construction Permit 16-A-043-PAL1 (CO PAL)

Continuous Emissions Monitoring

A. CEMS Requirements for SO₂

- **SO₂:**

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 sulfur dioxide (SO₂) emissions.

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. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- **Flowmeter¹:**

The owner or operator 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. The flowmeter for Boiler 11 shall be installed by January 31, 2017. 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.

¹ Flowmeter is required for solid fuel boilers where a CEMS is required (EU-PP06, EU-PP07)

B. The CEMS required 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.

C. The following data requirements shall apply to all CEMS 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 except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
- (2) The 1-hour average 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 two (2) data points must be used to calculate each 1-hour average.
- (3) For each hour of missing emission data, the owner or operator shall substitute data by:
 - (i) 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:

(a) 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.

(b) 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.

(ii) 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:

(a) 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.

(b) 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.

(iii) 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.

D. 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 16-A-048-PAL (SO₂ PAL)

A. CEMS Requirements for NO_x

- *NO_x*:

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 nitrogen oxide (NO_x) emissions.

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. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- *Flowmeter*^{1, 2}:

The owner or operator 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. The flowmeter for Boiler 11 shall be installed by January 31, 2017. 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.

¹ Flowmeter is required for solid fuel boilers where a CEMS is required (EU-PP06, EU-PP07) and is to be used to calculate hourly average lb/hr emissions.

² Emissions for natural gas boilers where a CEMS is required (EU-PP03, EU-PP04) must follow requirements of NSPS Subpart Db to calculate daily average lb/mmmbtu emissions.

- B. The CEMS 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.
- C. The following data requirements shall apply to all CEMS 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 except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
 2. The daily average 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 two (2) data points must be used to calculate each 1-hour average.
 3. For each hour of missing emission data, the owner or operator shall substitute data by:
 - (i) 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:
 - (a) 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.
 - (b) 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.
 - (ii) 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:
 - (a) 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.
 - (b) 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.

(iii) 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.

D. 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 16-A-044-PAL (NO_x PAL)

A. CEMS Requirements for CO:

- *CO:*

The owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring carbon monoxide (CO) emissions. 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. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- *Flowmeter:*

The owner or operator 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.

B. The CEMS required in Condition A. 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.

C. The following data requirements shall apply to all CEMS 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 except for CEM breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.
- (2) The 1-hour average 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 two (2) data points must be used to calculate each 1-hour average.
- (3) For each hour of missing emission data, the owner or operator shall substitute data by:
 - (i) 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:

(a) 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.

(b) 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.

(ii) 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:

(a) 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.

(b) 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.

(iii) 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.

D. 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 16-A-043-PAL1 (CO PAL)

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)

Authority for Requirements: 567 IAC 24.108(3)

III. Facility Description and Equipment List – Main Campus

Facility Name: University of Iowa

Permit Number: 00-TV-002R4

Facility Description: University (SIC 8221)

Equipment List

A. Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-1	EU1-1	Boyd Tower Generator	96-A-1238-S3
EP-2	EU2-1	General Hospital Generator	96-A-1239-S4
EP-5	EU5-1	JCP West Generator	96-A-1241-S2
EP-6	EU6-1	JCP East Generator	96-A-1242-S3
EP-006-1	EU-006-GEN-1	Pharmacy Generator	00-A-940-S2
EP-006-2			00-A-941-S2
EP-7	EU7-1	John Pappajohn Pavilion Generator	96-A-1243-S2
EP-8	EU8-1	South Wing Generator	99-A-449-S2
EP-018-4	EU-018-GEN-3	Biology Building Generator	01-A-800-S3
EP-022-1	EU-022-GEN-1	Engineering Building Generator	99-A-942-S4
EP-044-1	EU-044-GEN-1	Currier Hall Generator	01-A-730-S2
EP-418-1	EU-418-GEN-1	IATL Generator	96-A-1237-S3
EP-418-2			
EP-447-1	EU-447-GEN-1	MEBRF Generator	00-A-840-S1
EP-448-1	EU-448-GEN-1	New Biology Building Generator	98-A-941-S4
EP-674-4	EU-674-GEN-1	Emergency Diesel Generator West 600 kW	96-A-557-S1
EP-674-5	EU-674-GEN-2	Emergency Diesel Generator East 800 kW	96-A-807-S1

B. Existing (pre-June 12, 2006) Emergency Generators, Compression Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator (35 kW)	Exempt
EP-25	EU25-1	CDD Generator (230 kW)	Exempt
EP-028-1	EU-028-GEN-1	Med Labs Generator (75 kW)	Exempt
EP-033-1	EU-033-GEN-1	Westlawn Generator (100 kW)	Exempt
EP-034-1	EU-034-GEN-1	MEB Generator (180 kW)	Exempt
EP-040-1	EU-040-GEN-1	Fieldhouse Generator (32.5 kW)	Exempt
EP-073-1	EU-073-GEN-1	Burge Hall Generator	02-A-377-S3
EP-112-1	EU-112-GEN-1	Hillcrest Generator	02-A-379-S1
EP-204-2	EU-204-GEN-1	Bowen Science Generator	96-A-1235-S3
EP-273-2	EU-273-GEN-2	Rienow Generator (250 kW)	Exempt

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-276-2	EU-276-GEN-2	Daum Hall Generator	02-A-378-S3
EP-316-1	EU-316-GEN-1	Lindquist Generator	02-A-380-S1
EP-377-1	EU-377-GEN-1	Boyd Law Generator (260 kW)	Exempt
EP-391-2	EU-391-GEN-1	Mayflower Generator (200 kW)	Exempt
EP-401-1	EU-401-GEN-1	EMRB Generator (210 kW)	Exempt
EP-430-1	EU-430-GEN-1	PBAB Generator	99-A-592-S1
EP-434-2	EU-434-GEN-1	Levitt Center Generator (250 kW)	Exempt
EP-435-1	EU-435-GEN-1	MTF Generator (250 kW) ⁽¹⁾	Exempt
EP-446-5	EU-446-GEN-1	Hall of Fame Generator (230 kW)	Exempt
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator (250 kW)	Exempt

C. New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-003-5	EU-003-GEN-3	Chemistry Building Generator	06-A-851
EP-52	EU52-1	IRL ACCF Generator	12-A-109
EP-075-1	EU-075-GEN-1	College of Public Health Generator	09-A-480
EP-212-1	EU-212-GEN-1	EPF1 Emergency Generator	08-A-074
EP-290-1	EU-290-GEN-1	ITF Generator ⁽¹⁾	11-A-292-S1
EP-374-2	EU-374-GEN-2	CHA Generator	10-A-272
EP-435-2	EU-435-GEN-2	MTF Diesel Generator ⁽¹⁾	03-A-645-S2
EP-455-1	EU-455-GEN-1	CBRB Generator	03-A-1412-S2

D. New (Post-December 19, 2002) UIHC Centralized Emergency Generators, Compression Ignition, > 500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-62	EU62-GEN-1	UIHC Centralized Emergency Power Generator 1	15-A-194
EP-63	EP63-GEN-1	UIHC Centralized Emergency Power Generator 2	15-A-195
EP-64	EU64-GEN-1	UIHC Centralized Emergency Power Generator 3	15-A-196
EP-70	EU70-GEN-1	UIHC Centralized Emergency Power Generator 4	22-A-310
EP-71	EU71-GEN-1	UIHC Centralized Emergency Power Generator 5	22-A-311

E. New (Post-June 12, 2006) Emergency Generators, Compression Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-046-4	EU-046-GEN-2	IMU Generator	06-A-852
EP-68	EU68-GEN-1	UIHC Integrated Services Center Generator	19-A-139-S1
EP-188-1	EU-188-GEN-1	Spence Labs Generator (250 kW)	Exempt
EP-274-2	EU-274-GEN-2	Slater Hall Generator	Exempt

F. Existing (pre-June 12, 2006) Emergency Generators, Spark Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator (12 kW)	Exempt
EP-304-4	EU-304-GEN-1	Jacobson Building Generator (20 kW)	Exempt
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator (65 kW) ⁽¹⁾	Exempt
EP-450-1	EU-450-GEN-1	USB Generator (42.6 kW)	Exempt
EP-454-1	EU-454-GEN-1	Blank Honors Generator (150 kW)	Exempt
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator (240 kW)	Exempt

G. New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-042-3	EU-042-GEN-2	Kinnick Stadium Generator	18-A-126
EP-084-1	EU-084-GEN-1	Health Sciences Academic Building NG Emergency Generator	23-A-428-S1
EP-106-1	EU-106-GEN-1	College of Pharmacy Generator	18-A-134
EP-272-1	EU-272-GEN-1	Madison Street Residence Hall Emergency Generator	15-A-435
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	13-A-543
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator - Pump Station	14-A-259

H. New (post-June 12, 2006) Emergency Generators, Spark Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-037-1	EU-037-GEN-1	Art Building West Generator (200 kW)	Exempt
EP-046-5	EU-046-GEN-3	IMU Generator - Flood Mitigation (250 kW)	Exempt
EP-51	EU51-1	Aircare Generator (31 kW)	Exempt
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd Natural Gas Generator (80 kW) ⁽¹⁾	Exempt
EP-61	EU61-GEN-1	IRL ACF Natural Gas Generator (100 kW)	Exempt
EP-068-1	EU-068-GEN-1	CRWC Generator (250 kW)	Exempt

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator (60 kW) ⁽¹⁾	Exempt
EP-072-1	EU-072-GEN-1	UI Capital Center Generator (200 kW)	Exempt
EP-079-1	EU-079-GEN-1	Stanley Museum Of Art Generator (150 kW)	Exempt
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator (150 kW)	Exempt
EP-120-1	EU-120-GEN-1	Hancher Generator (200 kW)	Exempt
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator (250 kW)	Exempt
EP-137-1	EU-137-GEN-1	HRDP NG Emergency Generator (130 kW)	Exempt
EP-149-1	EU-149-GEN-1	GFWC Emergency NG Generator (50 kW)	Exempt
EP-278-2	EU-278-GEN-2	DSB Natural Gas Generator (300 kW)	22-A-444
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator (45 kW)	Exempt
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator - Dewatering Wells (128 kW)	Exempt
EP-418-4	EU-418-GEN-2	IATL Generator - Flood Mitigation	14-A-472
EP-457-10	EU-457-GEN-1	HTRC Emergency Generator (14 kW)	Exempt

I. Fuel Storage Tanks

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-22	EU22-1	Pappajohn Pavilion Fuel Tank	99-A-582-S1

J. Paint Booths

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-15	EU15-1	Boyd Tower Paint Booth	94-A-250-S4

K. Pharmacy Tablet Manufacturing

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-006-4 EP-006-5 EP-006-6 EP-006-7	EU-006-TAB-1	Pharmacy Tablet Manufacturing-Room 44C	99-A-943-S5 99-A-944-S5 99-A-945-S5 99-A-946-S5
	EU-006-TAB-2	Pharmacy Tablet Manufacturing-Room 32A	
	EU-006-TAB-3	Pharmacy Tablet Manufacturing-Room 32H	
	EU-006-TAB-4	Pharmacy Tablet Manufacturing-Room 32C	
	EU-006-TAB-5	Pharmacy Tablet Manufacturing-Room 32F	
	EU-006-TAB-6	Pharmacy Tablet Manufacturing-Room 41B	
	EU-006-TAB-7	Pharmacy Tablet Manufacturing-Room 43E	
	EU-006-LAB3-1	Third Floor Labs	
	EU-006-LAB5-1	Fifth Floor Labs	

L. Pharmacy Manufacturing Process Unit

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-106-2	EU-106-PMPU-1	Pharmaceutical Manufacturing Process Unit #1	19-A-107

M. Boilers and Water Heaters

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-055-3	EU-055-BLR-2	Obermann Center Steam Boiler #2	Exempt
EP-300-1	EU-300-BLR-1	Jefferson Building Boiler	Exempt
EP-300-2	EU-300-BLR-2	Jefferson Building Boiler	Exempt
EP-391-1	EU-391-BLR-1	Mayflower Boiler #1	Exempt
EP-391-4	EU-391-BLR-2	Mayflower Boiler #2	Exempt
EP-391-5	EU-391-BLR-3	Mayflower Boiler #3	Exempt
EP-395-1	EU-395-BLR-1	Hansen Football Performance Center Boiler #1	Exempt
EP-395-2	EU-395-BLR-2	Hansen Football Performance Center Boiler #2	Exempt
EP-395-3	EU-395-BLR-3	Hansen Football Performance Center Boiler #3	Exempt
EP-434-1	EU-434-BLR-1	Levitt Center Hot Water Boiler #1	Exempt
EP-434-3	EU-434-BLR-2	Levitt Center Hot Water Boiler #2	Exempt
EP-434-5	EU-434-BLR-3	Levitt Center Hot Water Boiler #3	Exempt
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3 ⁽¹⁾	Exempt
EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4 ⁽¹⁾	Exempt
EP-674-1	EU-674-BLR-1	Boiler 1 NG and Fuel Oil 22.1 MMBtu/hr	08-A-622-S1
	EU-674-BLR-2B	Boiler 2B NG and Fuel Oil 10 MMBtu/hr	
	EU-674-BLR-3	Boiler 3 NG and Fuel Oil 10 MMBtu/hr	

N. Miscellaneous Processes

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP-204-1	EU-204-INC-1	Crematorium-Natural Gas Combustion	87-A-156-S1
	EU-204-INC-1A	Crematorium-Pathological Waste Combustion	
EP-674-8	EU-674-CT-1	Cooling Tower #1	24-A-263
EP-674-9	EU-674-CT-2	Cooling Tower #2	24-A-264
EP-674-10	EU-674-CT-3	Cooling Tower #3	24-A-265
EP-674-11	EU-674-CT-4	Cooling Tower #4	24-A-266
EP-674-12	EU-674-CT-5	Cooling Towner #5	24-A-267

**Equipment Listed as Insignificant Prior to PAL Permit Issuance – Main
Campus Sources**

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-003-AST-3	Chemistry Generator Fuel Tank (3,000 gal, #2 Diesel)
EU-013-BLR-1	Athletic Learning Center Boiler 1 ⁽⁴⁾
EU-013-BLR-2	Athletic Learning Center Boiler 2 ⁽⁴⁾
EU-013-WH-1	Athletic Learning Center Water Heater ⁽⁴⁾
EU-022-BEAD-1	Engineering Building Bead Blaster
EU-022-AST-1	Engineering Building Generator Fuel Tank (530 gal, #2 Diesel)
EU-046-AST-2	IMU Generator Fuel Tank (700 gal, #2 Diesel)
EU-047-FUR-1	Furnace ⁽²⁾
EU-047-WH-1	Water Heater ⁽⁴⁾
EU-053-FUR-1	Furnace ⁽²⁾
EU-053-WH-1	Water Heater ⁽⁴⁾
EU-055-WH-1	Obermann Center Water Heater ⁽⁴⁾
EU-057-BLR-1	2660 Crosspark Rd Hot Water Boiler #1 ⁽¹⁾⁽⁴⁾
EU-057-BLR-2	2660 Crosspark Rd Hot Water Boiler #2 ⁽¹⁾⁽⁴⁾
EU-057-BLR-3	2660 Crosspark Rd Hot Water Boiler #3 ⁽¹⁾⁽⁴⁾
EU-057-FUR-1	Furnace ⁽¹⁾⁽²⁾
EU-057-FUR-2	Furnace ⁽¹⁾⁽²⁾
EU-069-FUR-1	2656 Crosspark Rd. Rooftop Furnace #1 ⁽¹⁾⁽²⁾
EU-069-FUR-2	2656 Crosspark Rd. Rooftop Furnace #2 ⁽¹⁾⁽²⁾
EU-069-FUR-3	2656 Crosspark Rd. Rooftop Furnace #3 ⁽¹⁾⁽²⁾
EU-069-FUR-4	2656 Crosspark Rd. Rooftop Furnace ⁽¹⁾⁽²⁾
EU-069-FUR-5	2656 Crosspark Rd. Rooftop Lab Furnace #3 ⁽¹⁾⁽²⁾
EU-075-AST-1	CoPH Generator Fuel Tank (850 gal, #2 Diesel)
EU-076-BLR-1	Environmental Services Boiler ⁽⁴⁾
EU-076-WH-1	Water Heater ⁽⁴⁾
EU-077-FUR-1	Furnace ⁽²⁾
EU-077-WH-1	Water Heater ⁽⁴⁾
EU-085-FUR-1	Furnace ⁽²⁾
EU-085-WH-1	Water Heater ⁽⁴⁾
EU-090-KILN-1	Geil Kiln 1
EU-090-KILN-2	Geil Kiln 2
EU-090-KILN-3	Geil Kiln 3
EU-090-KILN-4	Geil Kiln 4
EU-090-KILN-5	Geil Kiln 5
EU-090-KILN-6	Geil Kiln 6
EU-090-KILN-7	Geil Kiln 7
EU-090-KILN-8	Wood-Fired Kiln 1
EU-090-KILN-9	Wood-Fired Kiln 2
EU-090-MIX-1	Clay Mixers
EU-090-PLASTIC-1	Ceramic Shell
EU-090-PNT-1	Woodshop Paint Booth
EU-090-PNT-2	Ceramics Paint Booth
EU-090-PNT-3	Metals Benchtop Paint Booth

EU-090-PNT-4	Printmaking Paint Booth
EU-090-PNT-5	Shared Spaces Paint Booth
EU-090-SMELT-1	Crucible / Forge Furnaces
EU-120-PNT-1	Hancher Paint Booth
EU-123-FUR-1	Furnace ⁽²⁾
EU-123-FUR-2	Furnace ⁽²⁾
EU-132-FUR-1	Furnace ⁽²⁾
EU-132-FUR-2	Furnace ⁽²⁾
EU-132-UH-1	Unit Heater ⁽²⁾
EU-132-UH-2	Unit Heater ⁽²⁾
EU-155-BLR-1	Cultural Center Boiler ⁽⁴⁾
EU-155-FUR-1	Furnace ⁽²⁾
EU-155-WH-1	Water Heater ⁽⁴⁾
EU-156-BLR-1	Rainbow Childcare Boiler ⁽⁴⁾
EU-156-FUR-1	Furnace ⁽²⁾
EU-156-WH-1	Water Heater ⁽⁴⁾
EU-160-FUR-1	MSSB Furnace ⁽²⁾
EU-160-FUR-2	MSSB Furnace ⁽²⁾
EU-160-FUR-3	MSSB Furnace ⁽²⁾
EU-160-FUR-4	MSSB Furnace ⁽²⁾
EU-160-FUR-5	MSSB Furnace ⁽²⁾
EU-160-FUR-6	MSSB Furnace ⁽²⁾
EU-160-FUR-7	MSSB Furnace ⁽²⁾
EU-160-FUR-8	MSSB Furnace ⁽²⁾
EU-160-FUR-9	MSSB Furnace ⁽²⁾
EU-160-FUR-10	MSSB Furnace ⁽²⁾
EU-160-RH-1	MSSB Radiant Heater ⁽²⁾
EU-160-RH-2	MSSB Radiant Heater ⁽²⁾
EU-160-RH-3	MSSB Radiant Heater ⁽²⁾
EU-160-RH-4	MSSB Radiant Heater ⁽²⁾
EU-160-RH-5	MSSB Radiant Heater ⁽²⁾
EU-160-RH-6	MSSB Radiant Heater ⁽²⁾
EU-160-RH-7	MSSB Radiant Heater ⁽²⁾
EU-160-RH-8	MSSB Radiant Heater ⁽²⁾
EU-160-RH-9	MSSB Radiant Heater ⁽²⁾
EU-160-RH-10	MSSB Radiant Heater ⁽²⁾
EU-160-RH-11	MSSB Radiant Heater ⁽²⁾
EU-160-UH-1	MSSB Unit Heater ⁽²⁾
EU-160-UH-2	MSSB Unit Heater ⁽²⁾
EU-160-UH-3	MSSB Unit Heater ⁽²⁾
EU-160-UH4	MSSB Unit Heater ⁽²⁾
EU-160-WH-1	MSSB Water Heater ⁽⁴⁾
EU-165-UH-1	HSC Gas Unit Heater 1 ⁽²⁾
EU-165-UH-2	HSC Gas Unit Heater 2 ⁽²⁾
EU-165-WH-1	Water Heater ⁽⁴⁾
EU-176-FUR-1	Furnace ⁽²⁾
EU-176-WH-1	Water Heater ⁽⁴⁾
EU-182-PRNT-1	UIHC Stratasys J750 3D Printer
EU-182-CLN-1	UIHC FormWash Cleaning Station

EP-186-UH-1	Unit Heater ⁽²⁾
EP-186-UH-2	Unit Heater ⁽²⁾
EP-186-UH-3	Unit Heater ⁽²⁾
EP-186-UH-4	Unit Heater ⁽²⁾
EP-186-UH-5	Unit Heater ⁽²⁾
EP-186-UH-6	Unit Heater ⁽²⁾
EU-188-AST-1	Spence Labs Fuel Tank (660 gal, #2 Diesel)
EU-200-FUR-1	Furnace ⁽²⁾
EU-200-WH-1	Water Heater ⁽⁴⁾
EU-203-OVEN-1	Photostudios – Van Allen RM 101 CM Furnaces Sintering Oven
EU-203-CUT-1	Photostudios – Van Allen RM 101 Kern Laser Cutter/Engraving
EU-204-AST-1	Bowen Science Building Fuel Tank (500 gal, #2 Diesel)
EU-212-AST-1	EPFI Generator Diesel AST (1,260 gal, #2 Diesel)
EU-219-FUR-1	Furnace ⁽²⁾
EU-219-WH-1	Water Heater ⁽⁴⁾
EU-234-FUR-1	Oakdale Studio Facility Furnace
EU-241-CT-1	EMF Fume Hood 1 ⁽¹⁾
EU-241-CT-2	EMF Fume Hood 2 ⁽¹⁾
EU-241-CT-3	EMF Fume Hood 3 ⁽¹⁾
EU-241-CT-4	EMF Fume Hood 4 ⁽¹⁾
EU-241-N-1	Waste Storage Facility – Neutralization ⁽¹⁾
EU-241-N-2	Waste Storage Facility – Neutralization ⁽¹⁾
EU-241-ST-1	Waste Storage Facility - Sorting Table ⁽¹⁾
EU-241-VU-1	Waste Storage Facility - Vyleater Unit ⁽¹⁾
EU-274-AST-1	Slater Hall Fuel Tank (500 gal, #2 Diesel)
EU-280-FUR-1	Nagle Family Clubhouse Renew Aire Furnace ⁽²⁾
EU-280-FUR-2	Nagle Family Clubhouse Renew Daikin Furnace ⁽²⁾
EU-280-UH-1	Nagle Family Clubhouse Renew Unit Heater ⁽²⁾
EU-280-UH-2	Nagle Family Clubhouse Renew Unit Heater ⁽²⁾
EU-280-UH-3	Nagle Family Clubhouse Renew Unit Heater ⁽²⁾
EU-280-WH-1	Nagle Family Clubhouse Renew Water Heater ⁽⁴⁾
EU-280-WH-2	Nagle Family Clubhouse Renew Water Heater ⁽⁴⁾
EU-290-AST-1	ITC Fuel Day Tank ⁽¹⁾ (550 gal, #2 Diesel)
EU-290-UST-1	ITC Tank (15,000 gal, #2 Diesel) ⁽¹⁾
EU-300-WH-1	Water Heater ⁽⁴⁾
EU-307-FUR-1	Furnace ⁽²⁾
EU-307-FUR-2	Furnace ⁽²⁾
EU-307-WH-1	Water Heater ⁽⁴⁾
EU-316-AST-1	Lindquist Center Generator Fuel Tank (500 gal, #2 Diesel)
EU-317-FUR-1	ITDC Furnace ⁽²⁾
EU-317-FUR-2	ITDC Furnace and AC ⁽²⁾
EU-317-FUR-3	ITDC Furnace and AC ⁽²⁾
EU-317-UH-1	ITDC Unit Heater ⁽²⁾
EU-337-UH-2	Unit Heater ⁽²⁾
EU-337-UH-3	Unit Heater ⁽²⁾
EU-337-AST-1	Gasoline Tank (1,000 gal)
EU-337-AST-2	Diesel Tank (1,000 gal)
EU-337-FUR-1	Furnace ⁽²⁾
EU-342-AST-1	Used Oil Tank (1,000 gal)

EU-342-BLR-1	Wall Mount Boiler ⁽⁴⁾
EU-342-BLR-2	Wall Mount Boiler ⁽⁴⁾
EU-342-BLR-3	Wall Mount Boiler ⁽⁴⁾
EU-342-BLR-4	Wall Mount Boiler ⁽⁴⁾
EU-342-FUR-1	Forced Air Furnace ⁽²⁾
EU-342-RH-1	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-2	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-3	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-4	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-5	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-6	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-7	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-8	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-9	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-10	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-11	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-12	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-13	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-14	Reverber Ray Radiant Heater ⁽²⁾
EU-342-RH-15	Reverber Ray Radiant Heater ⁽²⁾
EU-342-UST-1	Fleet Services Gasoline UST (12,000 gal) ⁽³⁾
EU-342-UST-2	Fleet Services Ethanol UST (12,000 gal)
EU-342-UST-3	Fleet Services Diesel UST (12,000 gal)
EU-342-UST-4	Fleet Services Cambus Diesel UST (12,000 gal)
EU-347-UH-1	Unit Heater ⁽²⁾
EU-347-UH-2	Unit Heater ⁽²⁾
EU-347-UH-3	Unit Heater ⁽²⁾
EU-347-UH-4	Unit Heater ⁽²⁾
EU-358-UH-1	Unit Heater ⁽²⁾
EU-358-UH-2	Unit Heater ⁽²⁾
EU-358-UH-3	Unit Heater ⁽²⁾
EU-358-UH-4	Unit Heater ⁽²⁾
EU-369-FUR-1	Furnace ⁽²⁾
EU-370-WH-1	Iowa Geological Survey Water Heater ⁽¹⁾⁽⁴⁾
EU-379-BLR-1	700 S Clinton St Boiler ⁽⁴⁾
EU-379-BLR-2	700 S Clinton St Boiler ⁽⁴⁾
EU-379-FUR-1	Forced Air Furnace ⁽²⁾
EU-379-FUR-2	Forced Air Furnace ⁽²⁾
EU-379-WH-1	Water Heater ⁽⁴⁾
EU-382-FUR-1	RPLS Furnace ⁽¹⁾⁽²⁾
EU-382-UH-1	RPLS Unit Heater ⁽¹⁾⁽²⁾
EU-382-UH-2	RPLS Unit Heater ⁽¹⁾⁽²⁾
EU-382-WH-1	RPLS Water Heater ⁽¹⁾⁽⁴⁾
EU-393-BLR-1	Hydraulics WT Annex Boiler ⁽⁴⁾
EU-393-UH-1	Unit Heater ⁽²⁾
EU-393-UH-2	Unit Heater ⁽²⁾
EU-393-UH-3	Unit Heater ⁽²⁾
EU-394-FUR-1	Furnace ⁽²⁾
EU-394-WH-1	Water Heater ⁽⁴⁾

EU-401-UST-1	EMRB Fuel Tank (2,385 gal, #2 Diesel)
EU-418-AST-1	IATL Fuel Tank (960 gal, #2 Diesel)
EU-420-BLR-1	HWBF Boiler 1 ⁽¹⁾⁽⁴⁾
EU-420-BLR-2	HWBF Boiler 2 ⁽¹⁾⁽⁴⁾
EU-420-BLR-3	HWBF Boiler 3 ⁽¹⁾⁽⁴⁾
EU-434-BLR-4	Levitt Center Hot Water Boiler ⁽⁴⁾
EU-434-UH-1	Boiler Room Unit Heater ⁽²⁾
EU-434-WH-1	Water Heater ⁽⁴⁾
EU-435-FER-1	MTF CBB Pod C Fermenter
EU-435-FUR-1	MTF Furnace ⁽²⁾
EU-435-FUR-2	MTF Furnace ⁽²⁾
EU-435-FUR-3	MTF Furnace ⁽²⁾
EU-435-FUR-4	MTF Furnace ⁽²⁾
EU-435-FUR-5	MTF Furnace ⁽²⁾
EU-435-FUR-6	MTF Furnace ⁽²⁾
EU-435-FUR-7	MTF Furnace ⁽²⁾
EU-435-FUR-8	MTF Furnace ⁽²⁾
EU-435-FUR-9	MTF Furnace ⁽²⁾
EU-435-FUR-10	MTF Furnace ⁽²⁾
EU-435-UH-1	MTF Unit Heater ⁽²⁾
EU-436-FUR-1	Furnace ⁽²⁾
EU-436-FUR-2	Furnace ⁽²⁾
EU-436-FUR-3	Furnace ⁽²⁾
EU-436-FUR-4	Furnace ⁽²⁾
EU-436-FUR-5	Furnace ⁽²⁾
EU-436-FUR-6	Furnace ⁽²⁾
EU-436-FUR-7	Furnace ⁽²⁾
EU-436-FUR-8	Furnace ⁽²⁾
EU-436-FUR-9	Furnace ⁽²⁾
EU-436-UH-1	Unit Heater ⁽²⁾
EU-436-UH-2	Unit Heater ⁽²⁾
EU-436-UH-3	Unit Heater ⁽²⁾
EU-436-UH-4	Unit Heater ⁽²⁾
EU-436-UH-5	Unit Heater ⁽²⁾
EU-436-UH-6	Unit Heater ⁽²⁾
EU-436-UH-7	Unit Heater ⁽²⁾
EU-436-UH-8	Unit Heater ⁽²⁾
EU-437-FUR-1	Furnace ⁽²⁾
EU-437-WH-1	Water Heater ⁽⁴⁾
EU-439-BLR-1	NADS Boiler #1 ⁽¹⁾⁽²⁾
EU-439-BLR-2	NADS Boiler #2 ⁽¹⁾⁽²⁾
EU-439-BLR-3	NADS Boiler #3 ⁽¹⁾⁽²⁾
EU-440-FUR-1	Hydraulics Oakdale Annex 2 Furnace #1 ⁽¹⁾⁽²⁾
EU-440-FUR-2	Hydraulics Oakdale Annex 2 Furnace #2 ⁽¹⁾⁽²⁾
EU-440-UH-1	Hydraulics Oakdale Annex 2 Unit Heater #1 ⁽¹⁾⁽²⁾
EU-440-UH-2	Hydraulics Oakdale Annex 2 Unit Heater #2 ⁽¹⁾⁽²⁾
EU-440-UH-3	Hydraulics Oakdale Annex 2 Unit Heater #3 ⁽¹⁾⁽²⁾
EU-440-UH-4	Hydraulics Oakdale Annex 2 Unit Heater #4 ⁽¹⁾⁽²⁾
EU-440-UH-5	Hydraulics Oakdale Annex 2 Unit Heater #5 ⁽¹⁾⁽²⁾

EU-440-UH-6	Hydraulics Oakdale Annex 2 Unit Heater #6 ⁽¹⁾⁽²⁾
EU-440-UH-7	Hydraulics Oakdale Annex 2 Unit Heater #7 ⁽¹⁾⁽²⁾
EU-440-UH-8	Hydraulics Oakdale Annex 2 Unit Heater #8 ⁽¹⁾⁽²⁾
EU-440-UH-9	Hydraulics Oakdale Annex 2 Unit Heater #9 ⁽¹⁾⁽²⁾
EU-440-UH-10	Hydraulics Oakdale Annex 2 Unit Heater #10 ⁽¹⁾⁽²⁾
EU-440-UH-11	Hydraulics Oakdale Annex 2 Unit Heater #11 ⁽¹⁾⁽²⁾
EU-441-FUR-1	Laundry Building Roof Furnace #1 ⁽¹⁾⁽²⁾
EU-441-FUR-2	Laundry Building Roof Furnace #2 ⁽¹⁾⁽²⁾
EU-441-FUR-3	Laundry Building Roof Furnace #3 New Addition ⁽¹⁾⁽²⁾
EU-441-UH-1	Laundry Building Unit Heater #1 ⁽¹⁾⁽²⁾
EU-441-UH-2	Laundry Building Unit Heater #2 ⁽¹⁾⁽²⁾
EU-441-UH-3	Laundry Building Unit Heater #3 ⁽¹⁾⁽²⁾
EU-441-UH-4	Laundry Building Unit Heater #4 ⁽¹⁾⁽²⁾
EU-441-UH-5	Laundry Building Unit Heater #5 ⁽¹⁾⁽²⁾
EU-441-UH-6	Laundry Building Unit Heater #6 ⁽¹⁾⁽²⁾
EU-441-UH-7	Laundry Building Unit Heater #7 ⁽¹⁾⁽²⁾
EU-441-UH-8	Laundry Building Unit Heater #8 ⁽¹⁾⁽²⁾
EU-441-UH-9	Laundry Building Unit Heater #9 ⁽¹⁾⁽²⁾
EU-441-UH-10	Laundry Building Unit Heater #10 ⁽¹⁾⁽²⁾
EU-441-UH-11	Laundry Building Unit Heater #11 ⁽¹⁾⁽²⁾
EU-441-WH-12	Laundry Building Unit Heater #12 ⁽¹⁾⁽²⁾
EU-446-BLR-1	Hot Water Boiler ⁽⁴⁾
EU-446-BLR-2	Hot Water Boiler ⁽⁴⁾
EU-446-BLR-3	Hot Water Boiler ⁽⁴⁾
EU-447-AST-1	MEBRF Generator Fuel Tank (500 gal, #2 Diesel)
EU-448-WH-1	Water Heater ⁽⁴⁾
EU-450-BLR-1	USB Hot Water Boiler ⁽⁴⁾
EU-450-BLR-2	USB Hot Water Boiler ⁽⁴⁾
EU-450-WH-1	USB Water Heater ⁽⁴⁾
EU-455-AST-1	CBRB Generator Fuel Tank (600 gal, #2 Diesel)
EU-457-BLR-1	West Tennis Boiler ⁽⁴⁾
EU-457-BLR-2	West Tennis Boiler ⁽⁴⁾
EU-457-BLR-3	Hawkeye Tennis Boiler ⁽⁴⁾
EU-457-BLR-4	Hawkeye Tennis Boiler ⁽⁴⁾
EU-457-BLR-5	Hawkeye Tennis Boiler ⁽⁴⁾
EU-457-WH-3	Hawkeye Tennis Water Heater ⁽⁴⁾
EU-457-WH-4	Hawkeye Tennis Water Heater #4
EU-460-FUR-1	Furnace ⁽²⁾
EU-460-WH-1	Water Heater ⁽⁴⁾
EU-461-BLR-1	Boiler #1 Bedell Entrepreneurship Learning Laboratory ⁽²⁾
EU-461-BLR-2	Boiler #2 Bedell Entrepreneurship Learning Laboratory ⁽²⁾
EU-461-BLR-3	Boiler #3 Bedell Entrepreneurship Learning Laboratory ⁽²⁾
EU-462-FUR-1	Furnace ⁽²⁾
EU-462-WH-1	Water Heater ⁽⁴⁾
EU-469-FUR-1	Furnace ⁽²⁾
EU-469-WH-1	Water Heater ⁽⁴⁾
EU-478-BLR-2	Advanced Services Building Hot Water Boiler #1 ⁽⁴⁾
EU-478-BLR-3	Advanced Services Building Hot Water Boiler #2 ⁽⁴⁾
EU-630-BLR-1	PPRB Boiler 1 NG 0.399 MMBtu/hr ⁽²⁾

EU-630-BLR-2	PPRB Boiler 2 NG 0.399 MMBtu/hr ⁽²⁾
EU-674-UST-1	UST 4,000 gallon Diesel – Mercy
EU-674-UST-2	UST 8,000 gallon Diesel – Mercy
EU-F-SAND	Sand Pile (Inside)
EU-F-SALT	Salt Pile (Inside)
EU-F-003-PTW-1	Parts Washer-Chembot Safety Kleen
EU-F-185-LIME-2	Lime Loading (Pneumatic)
EU-F-241-EMF	EMF - Oakdale Storage ⁽¹⁾
EU-PORT-AST-1	Portable Generator 800 Gallon Fuel Tank
EU11-UST-1	Jet Fuel Tank (10,000 gal)
EU21-1	Colloton Pavilion East Fuel Tank (10,000 gal, #2 Diesel)
EU23-UST-1	RCP Fuel Tank (10,000 gal, #2 Diesel)
EU43-UST-1	Boyd Tower Tank (10,000 gal, #2 Diesel)
EU53-AST-1	IRL ACF Fuel Tank (660 gal, #2 Diesel)
EU54-BLR-1	Sports Medicine Clinic Boiler ⁽⁴⁾
EU55-WH-1	Sports Medicine Clinic Water Heater ⁽⁴⁾
EU56-WH-1	Sports Medicine Clinic Water Heater ⁽⁴⁾
EU57-AST-1	Aircare Hanger Jet Fuel Tank (2,000 gal)
EU58-BLR-1	IRL-ACF Boiler ⁽⁴⁾
EU59-BLR-1	IRL-ACF Boiler ⁽⁴⁾
EU60-UST-1	JCPW Fuel Tank (15,000 gal, #2 Diesel)
EU65-UST-1	UIHC Centralized Emergency Power Generator #1 Fuel Tank (12,000 gal, #2 Diesel)
EU66-UST-1	UIHC Centralized Emergency Power Generator #2 Fuel Tank (12,000 gal, #2 Diesel)
EU67-UST-1	UIHC Centralized Emergency Power Generator #3 Fuel Tank (12,000 gal, #2 Diesel)
EU69-AST-1	UIHC Integrated Services Center Fuel Tank (654 gal, #2 Diesel)

* This unit is now listed with the significant activities equipment

⁽¹⁾ Located at the Oakdale Campus.

⁽²⁾ Natural Gas-Fired and less than 10 MMBtu/hr.

⁽³⁾ DNR Construction Permit 07-A-1294 for this emission unit does not contain any specific terms or conditions. Therefore the emission unit qualifies as an insignificant activity per 567 IAC 24.103.

⁽⁴⁾ Capacity is either less than 120 US gallons or 1.6 MMBtu/hr.

IV. Emission Point-Specific Conditions – Main Campus

Facility Name: University of Iowa

Permit Number: 00-TV-002R4

Emission Point ID Number: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

Associated Equipment

Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

NOTE: All emergency generators listed in the table fire on diesel fuel.

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW
EP-1	EU1-1	Boyd Tower Generator	9.86	1293	965
EP-2	EU2-1	General Hospital Generator	9.86	1293	965
EP-5	EU5-1	JCP West Generator	12.30	1608	1200
EP-6	EU6-1	JCP East Generator	12.30	1608	1200
EP-006-1	EU-006-GEN-1	Pharmacy Generator	5.96	830	619
EP-006-2					
EP-7	EU7-1	John Pappajohn Pavilion Generator	12.30	1608	1200
EP-8	EU8-1	South Wing Generator	4.00	610	400
EP-018-4	EU-018-GEN-3	Biology Building Generator	6.06	896	600
EP-022-1	EU-022-GEN-1	Engineering Building Generator	5.38	749	500
EP-044-1	EU-044-GEN-1	Currier Hall Generator	4.00	536	400
EP-418-1	EU-418-GEN-1	IATL Generator	7.60	1064	794
EP-418-2					
EP-447-1	EU-447-GEN-1	MEBRF Generator	12.10	1675	1250
EP-448-1	EU-448-GEN-1	New Biology Building Generator	4.82	755	500
EP-674-4	EU-674-GEN-1	Emergency Diesel Generator West	6.14	896	600
EP-674-5	EU-674-GEN-2	Emergency Diesel Generator East	8.35	1199	800

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition,
> 500 HP – Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM ₁₀ Limit (lb/hr)	NO _x Limit	Authority for Requirements
EP-1	EU1-1	40% ⁽²⁾	2.41	2.41	N/A	96-A-1238-S3
EP-2	EU2-1	40% ⁽²⁾	2.41	2.41	N/A	96-A-1239-S4
EP-5	EU5-1	40% ⁽³⁾	N/A	3.01	N/A	96-A-1241-S2
EP-6	EU6-1	40% ⁽³⁾	N/A	3.01	N/A	96-A-1242-S3
EP-006-1	EU-006-GEN-1	40% ⁽¹⁾	N/A	0.41	N/A	00-A-940-S2
EP-006-2				0.41		00-A-941-S2
EP-7	EU7-1	40% ⁽³⁾	N/A	3.01	N/A	96-A-1243-S2
EP-8	EU8-1	40% ⁽¹⁾	N/A	1.01	12.40 lb/hr	99-A-449-S2
EP-018-4	EU-018-GEN-3	40% ⁽¹⁾	0.87	0.87	40.0 lb/hr	01-A-800-S3
EP-022-1	EU-022-GEN-1	40% ⁽¹⁾	0.753	0.753	N/A	99-A-942-S4
EP-044-1	EU-044-GEN-1	40% ⁽¹⁾	N/A	1.27	27.0 lb/hr	01-A-730-S2
EP-418-1	EU-418-GEN-1	40% ⁽²⁾	1.86	1.86	N/A	96-A-1237-S3
EP-418-2						
EP-447-1	EU-447-GEN-1	40% ⁽¹⁾	N/A	1.69	39.79 lb/hr	00-A-840-S1
EP-448-1	EU-448-GEN-1	40% ⁽¹⁾	0.67	0.67	N/A	98-A-941-S4
EP-674-4	EU-674-GEN-1	40% ⁽³⁾	NA	0.85	18.9 lb/hr	96-A-557-S1
EP-674-5	EU-674-GEN-2	40% ⁽³⁾	NA	NA	NA	96-A-807-S1

⁽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).

⁽²⁾ An exceedance of the indicator opacity of (20%) 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).

⁽³⁾ An exceedance of the indicator opacity of (25%) 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)

Emission Limits: 0.1 gr/dscf

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

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 2.5 lb/MMBtu

Authority for Requirements: DNR Construction Permits specified in Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP – Emission Limits
567 IAC 23.3(3)"b"

Operational Limits & Requirements

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

Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition,
> 500 HP - Operational Limits & Requirements

Emission Point	Emission Unit	Rolling 12-month Hours of Operation Limit (Hours)	Fuel Sulfur Limit ⁽¹⁾ (By Weight)	Allowable Fuel Type	Reporting & Recordkeeping Requirements ⁽²⁾	Authority for Requirements
EP-1	EU1-1	300	0.05%	#2 Diesel	1. Maintain records of fuel sulfur content. 2. Record the hours of operation of each generator for each month and calculate rolling 12-month totals.	96-A-1238-S3
EP-2	EU2-1	500	0.05%	#2 Diesel		96-A-1239-S4
EP-5	EU5-1	300	0.05%	Diesel		96-A-1241-S2
EP-6	EU6-1	300	0.0015%	Diesel		96-A-1242-S3
EP-006-1	EU-006-GEN-1	500	0.05%	#1 or #2 Diesel		00-A-940-S2
EP-006-2						00-A-941-S2
EP-7	EU7-1	300	0.05%	Any Diesel Fuel		96-A-1243-S2
EP-8	EU8-1	500	0.05%	#2 Diesel		99-A-449-S2
EP-018-4	EU-018-GEN-3	500	0.05%	#2 Diesel		01-A-800-S3
EP-022-1	EU-022-GEN-1	500	0.05%	#2 Diesel		99-A-942-S4
EP-044-1	EU-044-GEN-1	500	0.05%	#2 Diesel		01-A-730-S2
EP-418-1	EU-418-GEN-1	300	0.05%	#2 Diesel		96-A-1237-S3
EP-418-2						
EP-447-1	EU-447-GEN-1	500	0.05%	#2 Diesel		00-A-840-S1
EP-448-1	EU-448-GEN-1	500	0.05%	#2 Diesel		98-A-941-S4
EP-674-4	EU-674-GEN-1	500	0.0015%	Diesel	See Requirements below	96-A-557-S1
EP-674-5	EU-674-GEN-2	500	0.0015%	Diesel		96-A-807-S1

⁽¹⁾ Requested by facility.

⁽²⁾ All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Requirements for EP-2, EP-674-4 & EP-674-5 Each

- A. Each engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- B. Each engine:
 - (1) Is limited to operate as an emergency stationary internal combustion engine as defined in 40 CFR §63.6640(f). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition

- A. is not exceeded. In accordance with 40 CFR §63.6640(f)(2), the engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.
 - (2) Is also allowed to operate up to 50 hours per calendar year in non-emergency situations in accordance with 40 CFR §63.6640(f)(3), but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per calendar year for non-emergency operation cannot be used for peak shaving or non-emergency demand response or to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.
 - C. The owner or operator shall keep fuel supplier sulfur certifications for all diesel burned in these units.
 - D. The owner or operator must keep records of these engines in emergency and non-emergency service and must record the time of the operation of the engine and the reason each engine was operated during that time.
 - E. The owner or operator shall maintain the following monthly records:
 - (1) the number of hours that each engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that each engine operated for allowed non-emergency service;
 - (3) the number of hours that each engine operated for emergency service;
 - (4) the total number of hours that the engine operated; and
 - (5) the rolling 12-month total amount of the number of hours that each engine operated.
 - F. The owner or operator shall maintain the following calendar year records:
 - (1) the number of hours that each engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that each engine operated for allowed non-emergency operations; and
 - (3) the total number of hours that each engine operated for maintenance checks, readiness testing, and allowed non-emergency operations.
- Authority for Requirement: DNR Construction Permits 96-A-557-S1, 96-A-807-S1, 96-A-1239-S4

NSPS and NESHAP Applicability

All of the emergency engines listed in the Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP 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)(i) these emergency engines, located at major source, are existing stationary RICE as they were constructed prior to December 19, 2002.

According to 63.6590(b)(3)(iii), an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A, including initial notification requirements.

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition,
> 500 HP - Emission Point Characteristics

Emission Point Characteristics			Stack Characteristics				Discharge Style
Emission Point	Emission Unit	Construction Permit No.	Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	
EP-1	EU1-1	96-A-1238-S3	40.25	12	3,100	775	Vertical Unobstructed
EP-2	EU2-1	96-A-1239-S4	79.5	16	4,084	735	
EP-5	EU5-1	96-A-1241-S2	107	24	9,754 acfm	959	
EP-6	EU6-1	96-A-1242-S3	123.4	15	9,185 acfm	702	
EP-006-1	EU-006-GEN-1	00-A-940-S2	11.5	7	2,000	700	
EP-006-2		00-A-941-S2	11.5	7	combined	700	
EP-7	EU7-1	96-A-1243-S2	107	15	11,520 acfm	805	
EP-8	EU8-1	99-A-449-S2	93.2	10	1,200	1,060	
EP-018-4	EU-018-GEN-3	01-A-800-S3	66.75	14	1,900	906	
EP-022-1	EU-022-GEN-1	99-A-942-S4	77.16	8	1,500	1,119	
EP-044-1	EU-044-GEN-1	01-A-730-S2	80.5	9.75	1,200	1,063	
EP-418-1	EU-418-GEN-1	96-A-1237-S3	14.5	8	3,300	755	
EP-418-2							
EP-447-1	EU-447-GEN-1	00-A-840-S1	86	14	3,700	1,018	
EP-448-1	EU-448-GEN-1	98-A-941-S4	14	8	1,495	939	
EP-674-4	EU-674-GEN-1	96-A-557-S1	56	8	5,014	905	
EP-674-5	EU-674-GEN-2	96-A-807-S1	22.5	10	7,140 acfm	1,027	

* The facility has indicated that the exhaust flowrate is in units of acfm, not scfm. The facility may submit a construction permit modification to correct this.

Authority for Requirements: DNR Construction Permits specified in Table: Existing (Pre-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP – Emission Point Characteristics

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: See Table: Existing (Pre-June 12, 2006)
Emergency Generators, Compression Ignition,
< 500 HP (and also < 400 HP)**

Associated Equipment

Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition,
< 500 HP (and also <400 HP) ^{(1) (2) (3)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator	0.44	47	35
EP-25	EU25-1	CDD Generator	1.72	308	230
EP-028-1	EU-028-GEN-1	Med Labs Generator	0.82	101	75
EP-033-1	EU-033-GEN-1	Westlawn Generator	0.97	134	100
EP-034-1	EU-034-GEN-1	MEB Generator	0.81	107	80
EP-040-1	EU-040-GEN-1	Fieldhouse Generator	0.37	44	32.5
EP-273-2	EU-273-GEN-2	Rienow Generator	2.59	335	250
EP-377-1	EU-377-GEN-1	Boyd Law Generator	2.74	349	260
EP-391-2	EU-391-GEN-1	Mayflower Generator	2.04	268	200
EP-401-1	EU-401-GEN-1	EMRB Generator	1.59	282	210
EP-434-2	EU-434-GEN-1	Levitt Center Generator	2.47	335	250
EP-435-1	EU-435-GEN-1	MTF Generator	2.59	335	250
EP-446-5	EU-446-GEN-1	Hall of Fame Generator	2.06	308	230
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator	2.30	335	250

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are exempt from construction permitting since the rated capacity is less than 400 bhp.

⁽³⁾ All engines listed fire on diesel fuel.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 2.5 lb/MMBtu

Authority for Requirements: 567 IAC 23.3(3)"b"(2)

Operational Limits & Requirements

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

1. 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 Requirements: 567 IAC 23.3(3)"b"(1)

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

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 Requirements: 567 IAC 24.108(3)

NSPS and NESHAP Applicability

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) these compression ignition emergency engines, located at a major source, are existing stationary RICE as they were 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.

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 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. 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. The 50 hours per year for non-emergency situations cannot be used for peak shaving, 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.)

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

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: See Table: Existing (Pre-June 12, 2006)
Emergency Generators, Compression Ignition,
< 500 HP (and > 400 HP)**

Associated Equipment

Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition,
< 500 HP (and > 400 HP)

NOTE: All emergency generators listed in the table fire on diesel fuel.

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW
EP-073-1	EU-073-GEN-1	Burge Hall Generator	3.14	402	300
EP-112-1	EU-112-GEN-1	Hillcrest Hall Generator	2.78	455	275
EP-204-2	EU-204-GEN-1	Bowen Science Generator	3.59	469	350
EP-276-2	EU-276-GEN-2	Daum Hall Generator	3.14	402	300
EP-316-1	EU-316-GEN-1	Lindquist Generator	2.61	415	250
EP-430-1	EU-430-GEN-1	PBAB Generator	2.85	430	300

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition,
< 500 HP (and > 400 HP) – Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM ₁₀ Limit (lb/hr)	Authority for Requirements
EP-073-1	EU-073-GEN-1	40% ⁽¹⁾	0.917	0.917	02-A-377-S3
EP-112-1	EU-112-GEN-1	40% ⁽¹⁾	N/A	0.862	02-A-379-S1
EP-204-2	EU-204-GEN-1	40% ⁽²⁾	0.88	0.88	96-A-1235-S3
EP-276-2	EU-276-GEN-2	40%	0.917	0.917	02-A-378-S3
EP-316-1	EU-316-GEN-1	40% ⁽¹⁾	N/A	0.808	02-A-380-S1
EP-430-1	EU-430-GEN-1	40% ⁽¹⁾	0.88	0.88	99-A-592-S1

⁽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).

⁽²⁾ An exceedance of the indicator opacity of (20%) 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).

⁽³⁾ An exceedance of the indicator opacity of (25%) 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)
Emission Limits: 0.1 gr/dscf
Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirements: DNR Construction Permits specified in Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP (and > 400 HP) – Emission Limits
567 IAC 23.3(3)"b"

Operational Limits & Requirements

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

Table: Existing (Pre- June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP (and > 400 HP) – Operational Limits & Requirements

Emission Point	Emission Unit	Rolling 12-month Hours of Operation Limit (Hours)	Fuel Sulfur Limit ⁽¹⁾ (By Weight)	Allowable Fuel Type	Reporting & Recordkeeping Requirements ⁽²⁾	Authority for Requirements
EP-073-1	EU-073-GEN-1	500	0.05%	#2 Diesel	1. Maintain records of fuel sulfur content. 2. Record the hours of operation of each generator for each month and calculate rolling 12-month totals.	02-A-377-S3
EP-112-1	EU-112-GEN-1	500	0.05%	#2 Diesel		02-A-379-S1
EP-204-2	EU-204-GEN-1	300	0.05%	#2 Diesel		96-A-1235-S3
EP-276-2	EU-276-GEN-2	500	0.05%	#2 Diesel		02-A-378-S3
EP-430-1	EU-430-GEN-1	500	0.05%	#2 Diesel		99-A-592-S1

⁽¹⁾ Requested by facility.

⁽²⁾ All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

NSPS and NESHAP Applicability

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) these compression ignition emergency engines, located at a major source, are existing stationary RICE as they were 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.

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 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. 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. The 50 hours per year for non-emergency situations cannot be used for peak shaving, 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.)

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition,
< 500 HP - Emission Point Characteristics

Emission Point	Emission Unit	Construction Permit No.	Stack Characteristics				
			Height (feet)	Diameter (inches)	Exhaust Flowrate	Exhaust Temp. (°F)	Discharge Style
EP-073-1	EU-073-GEN-1	02-A-377-S3	60 ft 1 in	5	888 scfm	1,002	Vertical Unobstructed
EP-112-1	EU-112-GEN-1	02-A-379-S1	9.5	4	1,000 scfm	800	Vertical Unobstructed
EP-204-2	EU-204-GEN-1	96-A-1235-S3	37.25	8	1,400 scfm	810	Vertical Unobstructed
EP-276-2	EU-276-GEN-2	02-A-378-S3	98	6	888 scfm	1,002	Vertical Unobstructed
EP-316-1	EU-316-GEN-1	02-A-380-S1	10.25	6	900 scfm	786	Vertical Unobstructed
EP-430-1	EU-430-GEN-1	99-A-592-S1	48.5	6	1,000 scfm	895	Horizontal

Authority for Requirements: DNR Construction Permits specified in Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP – Emission Point Characteristics

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: See Table: New (Post-December 19, 2002)
Emergency Generators, Compression Ignition,
> 500 HP**

Associated Equipment

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition,
> 500 HP

NOTE: All emergency generators listed in the table fire on diesel fuel

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Date
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 kW)	5.63	726	500	06/01/2003
EP-455-1	EU-455-GEN-1	CBRB Generator	10.80	1598	1100	12/30/2003

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP
– Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM ₁₀ Limit (lb/hr)	SO ₂ Limit (lb/hr)	NO _x Limit (lb/hr)	Authority for Requirement
EP-435-2	EU-435-GEN-2	40% ⁽¹⁾	0.77	0.77	N/A	N/A	03-A-645-S2
EP-455-1	EU-455-GEN-1	40% ⁽¹⁾	1.51	1.51	0.56	34.59	03-A-1412-S2

⁽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)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 2.5 lb/MMBtu

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, >500 HP – Emission Limits
567 IAC 23.3(3)"b"

Operational Limits & Requirements

The owner/operator of the equipment listed in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, >500 HP shall comply with the operational limits and requirements listed below.

1. The facility is limited to using diesel oil #2 as the only fuel source for the generators.
2. The facility is limited to having a maximum sulfur content in the diesel oil #2 of 0.05% as requested.
3. The generators are limited to operating a maximum of 500 hours per rolling 12-month period each.

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. Maintain records of the amount of sulfur content in the diesel oil #2.
2. The owner or operator shall record the number of hours of operation for each month, and calculate a rolling 12-month total.

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

NSPS and NESHAP Applicability

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)(2)(i) these emergency engines, located at a major source, are new stationary RICE as they were constructed on or after December 19, 2002.

According to 40 CFR 63.6590(b)(1)(i), a new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for initial notification requirements of 40 CFR 63.6645(f).

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP
Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate	Exhaust Temp. (°F)	Discharge Style
EP-435-2	EU-435-GEN-2	14	10	1,465 scfm	1,187	Vertical Unobstructed
EP-455-1	EU-455-GEN-1	92.5	14	3,749 scfm	857	Vertical Unobstructed

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP – Emission Point Characteristics

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: EP-003-5 [New (Post-December 19, 2002)
Emergency Generator, Compression
Ignition, > 500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-003-GEN-3	Chemistry Building Generator	Diesel Fuel	12.22 MMBtu/hr, 1807 bhp, 1250 kW	06-A-851

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 40 % ⁽¹⁾

Authority for Requirement: DNR Construction Permit 06-A-851
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 10% 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 (PM₁₀)

Emission Limit: 1.71 lb/hr

Authority for Requirement: DNR Construction Permit 06-A-851

Pollutant: Particulate Matter (PM)

Emission Limit: 1.71 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 06-A-851
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 06-A-851
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 12.22 tons/yr

Authority for Requirement: DNR Construction Permit 06-A-851

Operational Limits

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

- A. The Emergency/Back-up Generator (EU-003-GEN-3) shall not operate more than 500 hours per rolling twelve-month period.
- B. The Emergency/Back-up Generator (EU-003-GEN-3) shall not operate more than 50 hours per rolling twelve-month period in non-emergency situations per the definition of emergency stationary RICE in 40 CFR §63.6675.
- C. The Emergency/Back-up Generator (EU-003-GEN-3) shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.05% by weight.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. Record each month the total hours of operation for the Emergency/Back-up Generator. Calculate and record rolling twelve-month totals.
- B. Record each month the hours the Emergency/Back-up Generator operated in non-emergency situations. Calculate and record rolling twelve-month totals.
- C. Maintain records of the sulfur content of the fuel oil utilized in the Emergency/Back-up Generator.

Authority for Requirement: DNR Construction Permit 06-A-851

NSPS and NESHAP Applicability

NESHAP:

The emergency engine is 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)(2)(i) this emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after December 19, 2002.

According to 40 CFR 63.6590(b)(1)(i), a new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for initial notification requirements of 40 CFR 63.6645(f) unless it operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes of emergency demand response and for the periods of voltage or frequency deviation as specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
DNR Construction Permit 06-A-851

NSPS:

This engine is subject to 40 CFR Part 60 NSPS Subpart IIII – Standards of Performance

for Stationary Compression Ignition Internal Combustion Engines (IAC 23.1(2)“yyy”).
The engine is an emergency stationary internal combustion engine that is not a fire pump engine.

NSPS Subpart IIII Requirements

For pre-2007 model year emergency (Except FP) CI engines with Disp. < 30 l/cyl constructed after 7/11/2005 and manufactured after 4/1/2006:

Emission Standards:

According to 40 CFR 60.4205(c) and Table 1 to Subpart IIII, you must comply with the following emission standards in grams/kW-hr (grams/HP-hr):

Maximum Engine Power	HC	NO_x	CO	PM
kW>560 (HP>750)	1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Fuel Requirements

You must use diesel fuel that has 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 60.4207 and 40 CFR 1090.305.

Compliance Requirements:

- A. You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).
 - a) Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
 - b) Changing only those emission-related settings that are permitted by the manufacturer; and
 - c) Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.
- 2: You must demonstrate compliance with the applicable emission standards according to one of the following methods. 40 CFR 60.4211(b).
 - a) Purchasing an engine certified according to 40 CFR 89 or 40 CFR 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
 - b) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in Subpart IIII and these methods must have been followed correctly.
 - c) Keeping records of engine manufacturer data indicating compliance with the standards.
 - d) Keeping records of control device vendor data indicating compliance with the standards.
 - e) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.
3. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with

good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 60.4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
500 < HP	Within 1 year of engine startup, or non-permitted action ⁽¹⁾	Every 8,760 hours or 3 years, whichever comes first

⁽¹⁾ Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements

1. There is no time limit on use for emergency situations. 40 CFR 60.4211(f)(1).
2. The engine may be operated for the purpose of maintenance checks and readiness testing, emergency demand response, and deviation of voltage or frequency for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
3. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or non-emergency demand response or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Authority for Requirement: 40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"
DNR Construction Permit 06-A-851

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 97.8

Stack Opening, (inches, dia.): 18

Exhaust Flowrate (acfm): 10,616

Exhaust Temperature (°F): 799

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 06-A-851

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: See Table: New (Post-December 19, 2002)
Emergency Generators, Compression Ignition,
> 500 HP**

Associated Equipment

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

NOTE: All emergency generators listed in the table fire on diesel fuel.

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Date
EP-52	EU52-1	IRL ACCF Generator	3.92	546	350	05/15/2012
EP-075-1	EU-075-GEN-1	College of Public Health Generator	4.75	755	500	07/01/2009
EP-212-1	EU-212-GEN-1	EPF1 Emergency Generator	15.18	2206	1500	06/01/2007
EP-374-2	EU-374-GEN-2	CHA Generator	4.40	619	400	09/01/2010

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP
– Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM ₁₀ Limit (lb/hr)	NO _x Limit (lb/hr)	CO Limit (lb/hr)	Authority for Requirements
EP-52	EU52-1	40% ⁽¹⁾⁽²⁾	N/A	N/A	N/A	N/A	12-A-109
EP-075-1	EU-075-GEN-1	40% ⁽¹⁾⁽²⁾	0.30	0.30	10.58	4.44	09-A-480
EP-212-1	EU-212-GEN-1	40% ⁽¹⁾⁽²⁾	0.92	0.92	N/A	N/A	08-A-074
EP-374-2	EU-374-GEN-2	40% ⁽¹⁾⁽²⁾	0.62	0.62	8.50	3.10	10-A-272

⁽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).

⁽²⁾ The source shall also meet the emission standards of 40 CFR 89.113 per 40 CFR 60.4205(b).

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 2.5 lb/MMBtu

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, >500 HP – Emission Limits
567 IAC 23.3(3)"b"

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP – Emission Limits for Units Subject to 40 CFR 60 Subpart IIII in g/kW-hr (g/hp-hr)

Emission Point	Emission Unit	PM Limit (Filterable only)	NO _x + NMHC	CO
EP-52	EU52-1	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)
EP-075-1	EU-075-GEN-1	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)
EP-212-1	EU-212-GEN-1	0.20 (0.15)	6.4 (4.8)	3.5 (2.6)
EP-374-2	EU-374-GEN-2	0.20 (0.15)	4.0 (3.0)	3.5 (2.6)

Authority for Requirements: 40 CFR 60 Subpart IIII, 40 CFR 60.4205(b)
DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, >500 HP – Emission Limits

Operational Limits & Requirements

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

- A. Per 40 CFR§60.4211, the owner or operator must purchase an engine certified to the emissions standards in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
- B. The owner or operator of these emergency generators must operate and maintain the generator according to the manufacture's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. In addition, the owner or operator may only change those settings that are permitted by the manufacturer.
- C. The owner or operator shall only operate these emergency generators in emergency situations or for routine maintenance and testing.
- D. These emergency generators shall not operate more than 500 hours per rolling twelve-month period. In addition, the facility shall comply with the requirements of 40 CFR§60.4211(e).

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

For unit EU-52 only;

- A. This engine is limited to burning diesel fuel oil only.
- B. This engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- C. This engine is limited to operating for emergency situations and required testing and maintenance. In accordance with §60.4211(f), the engine is limited to operating a maximum of 100 hours per year for maintenance checks and readiness testing. This engine is not allowed to operate as a peak shaving unit.
- D. In accordance with §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 80.510(b) for nonroad diesel fuel:
 - i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
- E. In accordance with §60.4209(a), the engine shall be equipped with a non-resettable hour meter.
- F. In accordance with §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the manufacturer. The owner or operator may only change engine settings that are permitted by the manufacturer.

Authority for Requirement: DNR Construction Permit 12-A-109
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

For units EU-075-GEN-1, EU-212-GEN-1, EU-374-2 only

- A. These emergency generators shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.0015% by weight.
- B. Beginning October 1, 2010, diesel fuel fired in these emergency generators shall be limited to a maximum sulfur content of 15 ppm and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR 1090.305.
- C. Per 40 CFR§60.4207, owners and operators of pre-2011 model year diesel generators subject to NSPS Subpart IIII may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of 40 CFR§80.510(a) or CFR§80.510(b) beyond the dates required, for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

Authority for Requirements: DNR Construction Permits 09-A-480, 08-A-074, 10-A-272
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

For unit EU-52 only;

- A. The owner or operator shall maintain the following monthly records:
 - i. the total number of hours that the engine operated;
 - ii. the number of hours that the engine operated for maintenance checks and readiness testing; and
 - iii. the rolling 12-month total amount of the number of hours that the engine operated.
- B. The owner or operator shall maintain an annual record of the number of hours that the engine operated for maintenance checks and readiness testing.
- C. The owner or operator of the engine shall comply with the requirements of condition 14(D) listed above by one of the following methods:
 - i. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 1090.305; or
 - ii. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
 - iii. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

Authority for Requirement: DNR Construction Permit 12-A-109
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

For units EU-075-GEN-1, EU-212-GEN-1, EU-374-2 only;

- A. The owner or operator of these emergency generators shall install a non-resettable hour meter prior to startup of the engine per 40 CFR §60.4209.
- B. Per 40 CFR§60.4214,the owner or operator shall record the time of operation of these emergency generators and the reason the engines were in operation during that time, including information to show compliance with the requirements of 40 CFR§60.4211(e).
- C. Each month, the owner or operator shall record the total hours of operation for these emergency generators, and calculate and record rolling twelve-month totals.
- D. The owner or operator shall maintain records of the sulfur content of the fuel oil combusted in these emergency generators.
- E. The owner or operator these emergency generators shall follow the notification, reporting, and recordkeeping requirements of 40 CFR §60.4214(b).

Authority for Requirements: DNR Construction Permits 09-A-480, 08-A-074, 10-A-272
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

These emission units are subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (40 CFR §60.4200 through 40 CFR §60.4219) and to NSPS Subpart A - *General Provisions* (40 CFR §60.1 through 40 CFR §60.19).

These emission units are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ - *Stationary Reciprocating Internal Combustion Engines* (40 CFR §63.6580 through 40 CFR §63.6675) and to NESHAP Subpart A - *General Provisions* (40 CFR §63.1 through 40 CFR §63.15). This generator is considered an Emergency Stationary Reciprocating Internal Combustion Engine (RICE) as specified in 40 CFR §63.6675 is only subject to the initial notification requirements of 40 CFR §63.6645(d).

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition,
> 500 HP – Emission Point Characteristics

Emission Point	Emission Unit	Construction Permit No.	Stack Characteristics				Discharge Style
			Height (feet)	Diameter (inches)	Exhaust Flowrate (acfm)	Exhaust Temp. (°F)	
EP-52	EU52-1	12-A-109	100	8	3,334	919	Vertical Unobstructed
EP-075-1	EU-075-GEN-1	09-A-480	80.92	10.02	3,625	900	
EP-212-1	EU-212-GEN-1	08-A-074	57	14	11,060	764	
EP-374-2	EU-374-GEN-2	10-A-272	10.17	8	3,655	910	

Authority for Requirements: DNR Construction Permits specified in Table: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP – Emission Point Characteristics

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: EP-290-1 [New (Post-December 19, 2002)
Emergency Generator, Compression Ignition,
> 500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-290-GEN-1	ITF Generator	Diesel Fuel	20.29 MMBTU/hr, 3,056 bhp, 2,280 kW	11-A-292-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 11-A-292-S1
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 10% 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 (PM₁₀)

Emission Limit: 2.71 lb/hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 11-A-292-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 0.03 lb/hr, 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 11-A-292-S1
567 IAC 23.3(3)

Pollutant: Carbon Monoxide (CO)

Emission Limit: 57.30 lb/hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1

NSPS Emission Limits

Pollutant: Particulate Matter (Filterable Only)

Emission Limit: 0.54 g/kW-hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Hydrocarbons (HC)

Emission Limit: 1.3 g/kW-hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 9.2 g/kW-hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Carbon Monoxide (CO)

Emission Limit: 11.4 g/kW-hr

Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Operational Limits & Reporting/Recordkeeping 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. Per 40 CFR§60.4211, for this Emergency Generator, the owner or operator must purchase an engine certified to the emissions standards in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
- B. The owner or operator of this Emergency Generator must operate and maintain the generator according to the manufacture's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. In addition, the owner or operator may only change those settings that are permitted by the manufacturer.
- C. The owner or operator shall only operate this Emergency Generator in emergency situations or for routine maintenance and testing.
- D. This Emergency Generator shall not operate more than 500 hours per rolling twelve-month period. In addition, the facility shall comply with the requirements of 40 CFR§60.4211(e). The end of each month, the owner or operator shall record the total hours of operation for this Emergency Generator, and calculate and record rolling twelve-month totals.

- E. The diesel fuel fired in this Emergency Generator shall be limited to a maximum sulfur content of 15 ppm and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR 1090.305. The owner or operator shall maintain records of the sulfur content of the fuel oil combusted in this Emergency Generator.
 - F. Per 40 CFR§60.4207, owners and operators of pre-2011 model year diesel generators subject to NSPS Subpart IIII may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of 40 CFR§80.510(a) or CFR§80.510(b) beyond the dates required, for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.
 - G. The owner or operator of this Emergency Generator shall install a non-resettable hour meter prior to startup of the engine per 40 CFR §60.4209.
 - H. The owner or operator of this Emergency Generator shall follow the notification, reporting, and recordkeeping requirements of 40 CFR §60.4214(b).
- Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

This equipment is subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (40 CFR §60.4200 through 40 CFR §60.4219) and to NSPS Subpart A - *General Provisions* (40 CFR §60.1 through 40 CFR §60.19).

The emergency engine is 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)(2)(i) this emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after December 19, 2002.

According to 40 CFR 63.6590(b)(1)(i), a new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for initial notification requirements of 40 CFR 63.6645(f).

Authority for Requirement: DNR Construction Permit 11-A-292-S1
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 29

Stack Opening, (inches, dia.): 30

Exhaust Flowrate (acfm): 16,103

Exhaust Temperature (°F): 896

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 11-A-292-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.

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: EP-62, EP-63 & EP-64 [New (Post-December 19, 2002) UIHC Centralized Emergency Generators, Compression Ignition, > 500 HP]

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity (per engine)	Construction Permit
EP-62	EU62-GEN-1	UIHC Centralized Emergency Power Generator 1	Diesel Fuel	24.19 MMBtu/hr, 3634 bhp, 2500 kW	15-A-194
EP-63	EP63-GEN-1	UIHC Centralized Emergency Power Generator 2			15-A-195
EP-64	EU64-GEN-1	UIHC Centralized Emergency Power Generator 3			15-A-196

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 Limits: 40% ⁽¹⁾

Authority for Requirements: 567 IAC 23.3(2)"d"

DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

⁽¹⁾ An exceedance of the indicator opacity of 10% 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 Limits: 0.72 lb/hr

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Particulate Matter (PM₁₀)

Emission Limits: 0.72 lb/hr

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Particulate Matter (PM)

Emission Limits: 0.72 lb/hr, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196
567 IAC 23.3(2)"a"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limits: 51.15 lb/hr

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Carbon Monoxide (CO)

Emission Limits: 6.01 lb/hr

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Operational Limits & Requirements

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

- A. These engines are limited to burning diesel fuel oil that meets the requirements of Condition D.
- B. Each engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- C.
 - i. These engines are limited to operate as emergency stationary internal combustion engines as defined in §60.4219 and in accordance with §60.4211. There is no time limit on the use of the engines in emergency situations provided that the annual hourly limit established in Condition B. is not exceeded. In accordance with §60.4211, the engines are limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
 - ii. These engines are also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. These engines are not allowed to operate as peak shaving units.
- D. In accordance with §60.4207(b), the diesel fuel oil burned in these engines shall meet the following specifications from 40 CFR 1090.305 for nonroad diesel fuel:
 - i. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
- E. In accordance with §60.4209(a), each engine shall be equipped with a non-resettable hour meter.
- F. Each engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g).
- G. In accordance with §60.4211(a), these engines shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall maintain the following monthly records:
 - i. the number of hours that each engine operated for maintenance checks and readiness testing;
 - ii. the number of hours that each engine operated for allowed non-emergency operations;
 - iii. the total number of hours that each engine operated; and
 - iv. the rolling 12-month total amount of the number of hours that each engine operated.
- B. The owner or operator shall maintain the following annual records:
 - i. the number of hours that each engine operated for maintenance checks and readiness testing; and
 - ii. the number of hours that each engine operated for allowed non-emergency operations.
- C. The owner or operator of these engines shall comply with the requirements of condition D listed above by one of the following methods:
 - i. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
 - ii. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
 - iii. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196
40 CFR Part 60 NSPS Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

- A. These engines are subject to 40 CFR Part 60 NSPS Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (IAC 23.1(2)"yyy"). Each engine is an emergency stationary internal combustion engine that is not a fire pump engine.
 - i. In accordance with §60.4211(c), each engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC ¹ + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

¹ Non-methane hydrocarbon

- ii. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

These engines are also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ). The engines are new reciprocating internal combustion engines located at a major source of HAP, and are rated at more than 500 HP. In accordance with §63.6590 (b), the engines do not have to meet the requirements of Part 63 subpart ZZZZ and subpart A except for the initial notification requirements of §63.6645(f).

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
40 CFR Part 60 NSPS Subpart IIII
567 IAC 23.1(2)"yyy"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: UIHC Centralized Emergency Power Generators 1, 2 and 3 – Emission Point Characteristics

Emission Point	Emission Unit	Construction Permit No.	Stack Characteristics				
			Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-62	EU62-GEN-1	15-A-194	70	18	7,300	922	Vertical
EP-63	EU63-GEN-1	15-A-195	70	18	7,300	922	Vertical
EP-64	EU64-GEN-1	15-A-196	70	18	7,300	922	Vertical

Authority for Requirements: DNR Construction Permits 15-A-194, 15-A-195, and 15-A-196

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: EP-70 & EP-71 [New (Post-December 19,2002)
UIHC Centralized Emergency Generators,
Compression Ignition, > 500 HP]**

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity (per engine)	Construction Permit
EP-70	EU70-GEN-1	UIHC Centralized Emergency Power Generator 4	Diesel	175.3 gal/hr, 2,500 kW, 3634 bhp 24.19 MMBtu/hr	22-A-310
EP-71	EU71-GEN-1	UIHC Centralized Emergency Power Generator 5			22-A-311

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(s): 40%⁽¹⁾

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311
567 IAC 23.3(2)"d"

⁽¹⁾An exceedance of the indicator opacity of 10% 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: PM₁₀

Emission Limit(s): 0.75 lb/hr

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

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

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit(s): 52.0 lb/hr

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311

Pollutant: Carbon Monoxide

Emission Limit(s): 6.1 lb/hr

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311

See NSPS Section below for additional emission limits.

Operational Limits & Reporting/Recordkeeping 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. Each engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- B. Each engine:
 - (1) Is limited to operate as an emergency stationary internal combustion engine as defined in 40 CFR §60.4219 and in accordance with 40 CFR §60.4211(f). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition A. is not exceeded. In accordance with 40 CFR §60.4211(f)(2), each engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.
 - (2) Is also allowed to operate up to 50 hours per calendar year in non-emergency situations in accordance with 40 CFR §60.4211(f)(3), but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per calendar year for non-emergency operation cannot be used for peak shaving or non-emergency demand response or to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.
- C. In accordance with 40 CFR §60.4209(a), each engine shall be equipped with a non-resettable hour meter.
- D. The owner or operator shall maintain the following monthly records:
 - (1) the number of hours that each engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that each engine operated for allowed non-emergency service and the reason for the non-emergency operation;
 - (3) the number of hours that each engine operated for emergency service and the reason for the emergency operation [See 40 CFR §60.4214(b)];
 - (4) the total number of hours that each engine operated; and
 - (5) the rolling 12-month total amount of the number of hours that each engine operated.
- E. The owner or operator shall maintain the following annual records:
 - (1) the number of hours that each engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that each engine operated for allowed non-emergency operations; and
 - (3) the total number of hours that each engine operated for maintenance checks, readiness testing, and allowed non-emergency operations.

- F. In accordance with §60.4207(b), the diesel fuel burned in each engine shall meet the following specifications from 40 CFR 1090.305 for ultra-low sulfur diesel (ULSD):

Diesel Fuel Specifications

Parameter	Limit
Sulfur (S) content	15 ppm (0.0015%) by weight
Minimum cetane index or Maximum aromatic content	40 35% (by volume)

- (1) The owner or operator shall comply with the requirements listed above by one of the following methods:
- have the fuel supplier certify that the fuel delivered meets the of non-road diesel fuel ULSD as defined in 40 CFR 1090.80; or
 - obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
 - perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.
- G. Each engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4211(g).
- H. In accordance with 40 CFR §60.4211(a), each engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. Except as permitted in 40 CFR §60.4211(g), the owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
- I. The owner or operator shall complete all applicable monitoring, compliance, notification, reporting, and recordkeeping requirements as required by NSPS Subpart IIII not specifically listed in this permit:
- (1) The owner or operator of the engines shall follow the monitoring requirements of 40 CFR §60.4209.
 - (2) The owner or operator of the engines shall follow the compliance requirements of 40 CFR §60.4211.
 - (3) The owner or operator of the engines shall follow the notification, reporting, and recordkeeping requirements of 40 CFR §60.4214(b).
- Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

NESHAP

These engines are also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ). The engines are new reciprocating internal combustion engines located at a major source of HAP, and are rated at more than 500 HP. In accordance with §63.6590 (b), the engines do not have to meet the requirements of Part 63 subpart ZZZZ and subpart A except for the initial notification requirements of §63.6645(f).

Authority for Requirements: DNR Construction Permit 22-A-310, 22-A-3311
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

NSPS

These engines are subject to 40 CFR Part 60 NSPS Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (IAC 23.1(2)"yyy"). Each engine is an emergency stationary internal combustion engine that is not a fire pump engine.

- (1) In accordance with 40 CFR §60.4211(c), each engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from 40 CFR §60.4205(b) and 40 CFR §60.4202(a)(2) or 40 CFR §60.4202(b)(2). The emission standards that each engine must be certified by the manufacturer to meet are:

NSPS Certification Standards

Pollutant	Emission Standard¹	Basis/Reference
Particulate Matter (PM)	0.20 grams/kW-hr	40 CFR Part 1039, Appendix I ²
NMHC ³ + NO _x	6.4 grams/kW-hr	40 CFR Part 1039, Appendix I
Carbon Monoxide (CO)	3.5 grams/kW-hr	40 CFR Part 1039, Appendix I
Opacity – acceleration mode	20%	40 CFR §1039.105(b)(1)
Opacity – lugging mode	15%	40 CFR §1039.105(b)(2)
Opacity – peaks in acceleration or lugging modes	50%	40 CFR §1039.105(b)(3)

¹ grams/kW-hr = grams per kilowatt hour = gr/kW-hr

²Table 2 of Appendix I is for Tier 2 Emission Standards and Table 3 of Appendix I is for Tier 3 Emissions Standards.

³ Non-methane hydrocarbon.

- (2) In accordance with 40 CFR §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing engines certified by their manufacturer to meet the applicable emission standards for the same model year and engine power. The engines must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from 40 CFR §60.4205(b) and 40 CFR §60.4202(a)(2) or 40 CFR §60.4202(b)(2) is required. However, if the engines are not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with 40 CFR §60.4211(g).

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 78

Stack Opening, (inches, dia.): 18

Exhaust Flow Rate (scfm): 7,600

Exhaust Temperature (°F): 915

Discharge Style: Unobstructed vertical

Authority for Requirement: DNR Construction Permit 22-A-310, 22-A-311

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: EP-046-4 [New (Post June 12, 2006 Emergency Generator, Compression Ignition, <500 HP)]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-046-GEN-2	IMU Generator	Diesel Fuel	3.99 MMBtu/hr, 469 bhp, 350 kW	06-A-852

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 06-A-852
IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of (25%) 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 (PM₁₀)

Emission Limit: 1.0 lb/hr

Authority for Requirement: DNR Construction Permit 06-A-852

Pollutant: Particulate Matter (PM)

Emission Limit: 1.0 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 06-A-852
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 06-A-852
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 5.49 tons/yr

Authority for Requirement: DNR Construction Permit 06-A-852

Operational Limits & Requirements

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

- A. The Emergency Generator (EU-046-GEN-2) shall operate only in emergency situations and for routine maintenance and testing.

- B. The Emergency Generator (EU-046-GEN-2) shall not operate more than 500 hours per rolling twelve-month period.
- C. The Emergency Generator (EU-046-GEN-2) shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.05% by weight.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. Record each month the total hours of operation for the Emergency Generator. Calculate and record rolling twelve-month totals.
 - B. Maintain records of the sulfur content of the fuel oil utilized in the Emergency Generator.
- Authority for Requirement: DNR Construction Permit 06-A-852

NSPS and NESHAP Applicability

NESHAP

This emission unit is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ - *Stationary Reciprocating Internal Combustion Engines* (40 CFR §63.6580 through 40 CFR §63.6675) and to NESHAP Subpart A - General Provisions (40 CFR §63.1 through 40 CFR §63.15). This generator is considered an Emergency Stationary Reciprocating Internal Combustion Engine (RICE) and is only subject to the initial notification requirements of 40 CFR §63.6645(d). By NESHAP definition, Emergency Stationary RICE may operate only 50 hour per year in non-emergency situations.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
DNR Construction Permit 06-A-852

NSPS

This emission unit is subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4200 through 40 CFR §60.4219) and to NSPS Subpart A - General Provisions (40 CFR §60.1 through 40 CFR §60.19).

Emission Standards:

According to 40 CFR 60.4205(a), you must comply with the following emission standards in grams/kW-hr (grams/HP-hr):

Engine Displacement (liters/cylinder)	Maximum Engine Power	NMHC + NO _x	HC	NO _x	CO	PM	Rule Reference
Disp. < 10	130 ≤ kW (175 ≤ HP)	-	1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)	Table 1 to Subpart IIII

Fuel Requirements:

You must use diesel fuel that has 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 60.4207 and 40 CFR 1090.305.

Compliance Requirements:

1. You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).
 - a) Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
 - b) Changing only those emission-related settings that are permitted by the manufacturer; and
 - c) Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.
2. You must demonstrate compliance with the applicable emission standards according to one of the following methods. 40 CFR 60.4211(b).
 - a) Purchasing an engine certified according to 40 CFR 89 or 40 CFR 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
 - b) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in Subpart IIII and these methods must have been followed correctly.
 - c) Keeping records of engine manufacturer data indicating compliance with the standards.
 - d) Keeping records of control device vendor data indicating compliance with the standards.
 - e) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.
3. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
100 ≤ HP ≤ 500	Within 1 year of engine startup, or non-permitted action ⁽¹⁾	Not required

⁽¹⁾ Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements

1. If your emergency engine does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 40.4209(a)).

2. There is no time limit on the use of the emergency engine in emergency situations. 40 CFR 60.4211(f)(1).
3. The engine may be operated for the purpose of maintenance checks and readiness testing for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
4. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Authority for Requirement: DNR Construction Permit 06-A-852
 40 CFR Part 60, Subpart IIII
 567 IAC 23.1(2)"yyy"

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height, (ft, from the ground): 18

Stack Opening, (inches, dia.): 8

Exhaust Flowrate (acfm): 3,366

Exhaust Temperature (°F): 926

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 06-A-852

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: EP-68 [New (Post June 12, 2006 Emergency Generator, Compression Ignition, <500 HP)]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU68-GEN-1	UIHC Integrated Services Center Generator	Diesel Fuel	3.13 MMBtu/hr, 480 bhp, 300 kW	19-A-139-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 19-A-139-S1
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of (25%) 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)

Emission Limit: 0.1 gr/dscf

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

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(3)

See NSPS Section below for additional emission limits.

Operational Limits & Reporting/Recordkeeping 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 is limited to operating a maximum of 500 hours in any rolling 12-month period.
- B. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211(f). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition A. is not exceeded. In accordance with §60.4211(f)(2), the engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
- C. In accordance with §60.4209(a), the engine shall be equipped with a non-resettable hour

meter.

- D. The owner or operator shall maintain the following monthly records:
- i. the number of hours that the engine operated for maintenance checks and readiness testing;
 - ii. the total number of hours that the engine operated and
 - iii. the rolling 12-month total amount of the number of hours that the engine operated.
- E. The owner or operator shall maintain the following annual records:
- i. the number of hours that the engine operated for maintenance checks and readiness testing; and
 - ii. the total number of hours that the engine operated for maintenance checks and readiness testing.
- F. In accordance with §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 1090.305 for nonroad diesel fuel:

Parameter	Limit
Sulfur (S) content	15 ppm (0.0015%) by weight
Minimum cetane index or Maximum aromatic content	40 35% (by volume)

The owner or operator of the engine shall comply with these requirements listed above by one of the following methods:

- i. have the fuel supplier certify that the fuel delivered meets the definition of non-road diesel fuel as defined in 40 CFR 80.510(b);
 - ii. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
 - iii. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.
- G. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g).
- H. In accordance with §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Authority for Requirement: DNR Construction Permit 19-A-139-S1
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

NESHAP:

The emergency engine is 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)(2)(ii) this compression ignition emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), this emergency engine must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. No further requirements apply for this emergency engine under subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ

567 IAC 23.1(4)"cz"

DNR Construction Permit 19-A-139-S1

NSPS:

This emission unit is subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines* (40 CFR §60.4200 through 40 CFR §60.4219) and to NSPS Subpart A - *General Provisions* (40 CFR §60.1 through 40 CFR §60.19).

- i. In accordance with §60.4211(c), the engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC ¹ + NO _x	4.0 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113 (a)(1)
Opacity – lugging mode	15%	§ 89.113 (a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113 (a)(3)

⁽¹⁾ Non-methane hydrocarbon

- ii. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

Authority for Requirement: DNR Construction Permit 19-A-139-S1

40 CFR Part 60 Subpart IIII

567 IAC 23.1(2)"yyy"

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height, (ft, from the ground): 18

Stack Opening, (inches, dia.): 5

Exhaust Flowrate (acfm): 2,461

Exhaust Temperature (°F): 927

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 19-A-139-S1

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: See Table: New (Post-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP

Associated Equipment

Table: New (Post-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP ⁽¹⁾ ⁽²⁾ ⁽³⁾

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Date
EP-188-1	EU-188-GEN-1	Spence Labs Generator	2.66	398	250	03/22/2011
EP-274-2	EU-274-GEN-2	Slater Hall Generator	2.63	335	250	08/01/2007

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are exempt from construction permitting since the rated capacity is less than 400 bhp.

⁽³⁾ All engine listed fire on diesel fuel.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 2.5 lb/MMBtu

Authority for Requirements: 567 IAC 23.3(3)"b"(2)

Operational Limits & Requirements

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

1. 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 Requirements: 567 IAC 23.3(3)"b"(1)

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

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 Requirements: 567 IAC 24.108(3)

NSPS and NESHAP Applicability

NESHAP:

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)(2)(ii) these compression ignition emergency engines, located at a major source, are new stationary RICE as they were constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), this emergency engine must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. No further requirements apply for this emergency engine under subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

NSPS:

Emission Standards:

According to 40 CFR 60.4205(b) and 4202, you must comply with the following emission standards in grams/kW-hr (grams/HP-hr):

Engine Displacement (l/cyl)	Maximum Engine Power	Model Year(s)	NMHC + NO_x	CO	PM	Opacity	Rule Ref
Disp. < 10	$225 \leq \text{kW} < 450$ ($302 \leq \text{HP} < 604$)	2007+	4.0 (3.0)	3.5 (2.6)	0.20 (0.15)	(1)	(2)

(1) Exhaust opacity must not exceed: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

(2) 40 CFR 89.112 and 40 CFR 89.113.

Fuel Requirements:

You must use diesel fuel that has 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 60.4207 and 40 CFR 1090.305.

Compliance Requirements:

You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).

- a) Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
 - b) Changing only those emission-related settings that are permitted by the manufacturer; and
 - c) Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.
2. You must demonstrate compliance with the applicable emission standards by purchasing an engine certified to the applicable emission standards. The engine must be installed and configured according to the manufacturer's emission-related specifications. 40 CFR 60.4211(c).
3. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 60.4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
100 ≤ HP ≤ 500	Within 1 year of engine startup, or non-permitted action ⁽¹⁾	Not required

⁽¹⁾ Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements

1. If your emergency engine does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 40.4209(a)) and, starting with the model years in the following table, you must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time. 40 CFR 40.4214(b).

Engine power	Starting model year
130 ≤ KW (175 ≤ HP)	2011

2. There is no time limit on the use of the emergency engine in emergency situations. 40 CFR 60.4211(f)(1).
3. The engine may be operated for the purpose of maintenance checks and readiness testing for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
4. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Authority for Requirements: 40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

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: See Table: Existing (Pre-June 12, 2006)
Emergency Generators, Spark Ignition,
< 500 HP**

Associated Equipment

Table: Existing (pre-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP ^{(1) (2) (3)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	0.04	16	12
EP-304-4	EU-304-GEN-1	Jacobson Building Generator	0.13	27	19
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator	0.23	87	65
EP-450-1	EU-450-GEN-1	USB Generator	0.58	60	42.6
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	1.91	240	150
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	0.82	367	240

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are exempt from construction permitting since the rated capacity is less than 400 bhp.

⁽³⁾ All engines listed are fueled by natural gas.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppm_v

Authority for Requirements: 567 IAC 23.3(3)"e"

Operational Limits & Reporting/Recordkeeping 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.

NSPS and NESHAP Applicability

NESHAP:

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) these spark ignition emergency engines, located at a major source, are existing stationary RICE as they were 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 October 19, 2013.

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(j) for the oil analysis option to extend time frame of requirements.)
2. Inspect spark plugs every 1,000 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, 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. 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. The 50 hours per year for non-emergency situations cannot be used for peak shaving 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.)

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

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: EP-042-3, EP-106-1 [New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP]

Associated Equipment

Table: New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP ^{(1) (2)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Permit
EP-042-3	EU-042-GEN-2	Kinnick Stadium Generator	10.05	1468	1000	18-A-126
EP-106-1	EU-106-GEN-1	College of Pharmacy Generator	10.05	1468	1000	18-A-134

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are fueled by natural gas.

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 Limits: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 25% 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)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Recordkeeping 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 owner or operator shall comply with all applicable requirements in 40 CFR Part 60, Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion*

Engines, including those not specifically mentioned in this permit. If differences in language are found between the requirements in this permit and those found in Subpart JJJJ, the language specified in Subpart JJJJ shall be considered correct.

- B. Each engine is limited to operating a maximum of 500 hours in any rolling 12-month period. These engines are limited to operate as emergency stationary internal combustion engines as defined in §60.4248 and in accordance with §60.4243(d). There is no time limit on the use of these engines in emergency situations. In accordance with §60.4243(d)(2), each engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
- C. In accordance with §60.4237(a), each engine shall be equipped with a non-resettable hour meter.
- D. The owner or operator shall maintain the following monthly records:
 - i. the number of hours that each engine operated for maintenance checks and readiness testing;
 - ii. the total number of hours that each engine operated; and
 - iii. the rolling 12-month total amount of the number of hours that each engine operated.
- E. The owner or operator shall maintain the following annual records:
 - i. the number of hours that each engine operated for maintenance checks and readiness testing.
- F. In accordance with §60.4243(a)(1), these engines shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
- G. These engines shall only burn natural gas.

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

NESHAP:

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)(2)(i) these emergency engines, located at a major source, are new stationary RICE as they were constructed on or after December 19, 2002.

According to 40 CFR 63.6590(b)(1)(i), new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions are not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for initial notification requirements of 40 CFR 63.6645(f).

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
DNR Construction Permits 18-A-126, 18-A-134

NSPS:

Each emission unit is subject to the New Source Performance Standards (NSPS) Subpart JJJJ – Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines* (40 CFR §60.4230 through 40 CFR §60.4248) and to NSPS Subpart A - *General Provisions* (40 CFR §60.1 through 40 CFR §60.19).

- i. As specified in §60.4233(e) and in accordance with §60.4243(b), owners or operators of a stationary spark ignition (SI) internal combustion engine (ICE) with a maximum engine power greater than 100 HP must comply with the applicable emission standards in Table 1 to NSPS Subpart JJJJ for their stationary SI ICE.

Standards for spark ignition emergency engines with a maximum engine power greater than 130 HP		
Pollutant	Emission Standard	Basis
Nitrogen Oxides (NO _x)	2.0 g/HP-hr or 160 ppmvd at 15% O ₂	40 CFR Part 60, Subpart JJJJ Table 1
Carbon Monoxide (CO)	4.0 g/HP-hr or 540 ppmvd at 15% O ₂	40 CFR Part 60, Subpart JJJJ Table 1
Volatile Organic Compounds (VOC)	1.0 g/HP-hr or 86 ppmvd at 15% O ₂	40 CFR Part 60, Subpart JJJJ Table 1

- ii. In accordance with §60.4243(a)(1) and §60.4243(b)(1), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed, configured, operated, and maintained according to the manufacturer's specifications. The owner or operator must keep records of conducted maintenance to demonstrate compliance.
- iii. If the owner or operator complies with the requirements in §60.4243(b)(1) and §60.4243(a)(1), no further demonstration of compliance with the emission standards from §60.4233(e) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4243(a)(2).

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP
– Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-042-3	EU-042-GEN-2	22	14	3,290	984	Vertical Unobstructed
EP-106-1	EU-106-GEN-1	127	14	3,290	984	

Authority for Requirements: DNR Construction Permits 18-A-126, 18-A-134

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: EP-272-1 [New (Post-December 19, 2002)
Emergency Generators, Spark Ignition, >500
HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-272-GEN-1	Madison Street Residence Hall Emergency Generator	Natural Gas	4.09 MMBtu/hr, 530 bhp, 350 kW	15-A-435

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 15-A-435
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 25% 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)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 15-A-435
567 IAC 23.3(2)"a"(1)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppm_v

Authority for Requirement: DNR Construction Permit 15-A-435
567 IAC 23.3(3)"e"

Operational Limits & Requirements

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

- A. The owner or operator shall comply with the operating limitations and other operating requirements in 40 CFR Part 60, Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*, including those not specifically mentioned in this permit. If differences in language are found between the operating limitations and other operating requirements in this permit and those found in Subpart JJJJ, the language specified in Subpart JJJJ shall be considered correct.
- B. In accordance with §60.4243(b)(1) and §60.4243(a)(1), the owner or operator shall purchase a certified engine and operate and maintain this certified engine according to the

manufacturer's emission-related written instructions.

- C. The MSRH NG Emergency Generator (EU-272-GEN-1) is limited to operating as an emergency stationary reciprocating internal combustion engine (*Emergency stationary internal combustion engine*) as defined in 40 CFR §60.4248 and in accordance with §60.4243(d).
- D. The MSRH NG Emergency Generator (EU-272-GEN-1) shall be restricted to operate a maximum of 500 hours per rolling 12-month period. There is no limit on the use of the engine in emergency situations, provided that this annual hourly limit is not exceeded.
- E. In accordance with §60.4243(d)(2)(i), the MSRH NG Emergency Generator (EU-272-GEN-1) shall be restricted to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.
- F. The MSRH NG Emergency Generator (EU-272-GEN-1) shall be restricted to burn only natural gas.
- G. In accordance with §60.4237(a), the MSRH NG Emergency Generator (EU-272-GEN-1) shall be equipped with a non-resettable hour meter.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall comply with the monitoring, notification, recordkeeping, and reporting requirements in 40 CFR Part 60, Subpart JJJJ, including those not specifically mentioned in this permit. If differences in language are found between the monitoring, notification, recordkeeping, and reporting requirements in this permit and those in Subpart JJJJ, the language specified in Subpart JJJJ shall be considered correct.
- B. The owner or operator shall comply with the initial notification requirements of §63.6645(f).
- C. The owner or operator shall maintain the following monthly and twelve-month rolling records:
 - i. The total number of hours that the engine operated for maintenance checks and readiness testing.
 - ii. The total number of hours that the engine operated.

Authority for Requirement: DNR Construction Permit 15-A-435
40 CFR Part 60, Subpart JJJJ
567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

A. NSPS

- The MSRH NG Emergency Generator (EU-272-GEN-1) is subject to Title 40 of the Code of Federal Regulations (CFR) Part 60, Subpart A – *General Provisions* [§60.1 - §60.19].
- The MSRH NG Emergency Generator (EU-272-GEN-1) is subject to 40 CFR Part 60, Subpart JJJJ – *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*.
 - As specified in §60.4233(e) and in accordance with §60.4243(b), owners or

operators of a stationary spark ignition (SI) internal combustion engine (ICE) with a maximum engine power greater than 100 HP must comply with the applicable emission standards in Table 1 to NSPS Subpart JJJJ for their stationary SI ICE.

Standards for SI emergency engines with a maximum engine power greater than 130 HP		
Pollutant	Emission Standard	Basis
Nitrogen Oxides (NO _x)	2.0 g/HP-hr or 160 ppmvd at 15% O ₂	Table 1 to 40 CFR Part 60, Subpart JJJJ
Carbon Monoxide (CO)	4.0 g/HP-hr or 540 ppmvd at 15% O ₂	Table 1 to 40 CFR Part 60, Subpart JJJJ
Volatile Organic Compounds (VOC)	1.0 g/HP-hr or 86 ppmvd at 15% O ₂	Table 1 to 40 CFR Part 60, Subpart JJJJ

- In accordance with §60.4243(b)(1) and §60.4243(a)(1), owners or operators of a stationary spark ignition (SI) internal combustion engine (ICE) subject to the emission standards specified in §60.4233(d) or (e), must demonstrate compliance by:
 - i. Purchasing an engine certified according to procedures specified in NSPS Subpart JJJJ, for the same model year;
 - ii. Operating and maintaining the certified stationary SI ICE according to the manufacturer's emission-related written instructions; and
 - iii. Keeping records of conducted maintenance to demonstrate compliance.
- If owners or operators comply with the requirements in §60.4243(b)(1) and §60.4243(a)(1), no further demonstration of compliance with the emission standards from §60.4233(e) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4243(a)(2).

Authority for Requirement: DNR Construction Permit 15-A-435
40 CFR Part 60, Subpart JJJJ
567 IAC 23.1(2)"zzz"

B. NESHAP

- The MSRH NG Emergency Generator (EU-272-GEN-1) is subject to 40 CFR Part 63, Subpart A – *General Provisions* [567 IAC 23.1(4)"a"].
- The MSRH NG Emergency Generator (EU-272-GEN-1) is subject to 40 CFR Part 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* [567 IAC 23.1(4)"cz"].
- However, in accordance with §63.6590(b), the MSRH NG Emergency Generator (EU-272-GEN-1) does not have to meet the requirements in either Subpart A or Subpart ZZZZ of 40 CFR Part 63, except for the initial notification requirements of §63.6645(f), because it meets the criteria in §63.6590(b)(i), i.e.:
 - It is a new or reconstructed emergency stationary reciprocating internal combustion engine with a site rating of more than 500 HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in

§63.6640(f)(2)(ii) and (iii).

Authority for Requirement: DNR Construction Permit 15-A-435
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height, (ft, from the ground): 142

Stack Opening, (inches, dia.): 8

Exhaust Flowrate (scfm): 676

Exhaust Temperature (°F): 1,112

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 15-A-435

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: See Table: New (Post-December 19, 2002)
Emergency Generators, Spark Ignition, >500 HP**

Associated Equipment

Table: New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP ^{(1) (2)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Permit
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	3.56	530	335	13-A-543
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator - Pump Station	4.09	530	335	14-A-259

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are fueled by natural gas.

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 Limits: 40% ^{(1) (2)}

Authority for Requirements: DNR Construction Permits 13-A-543, 14-A-259
567 IAC 23.3(2)"d"

⁽¹⁾ EP-275-1: 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).

⁽²⁾ EP-391-6: An exceedance of the indicator opacity of 10% 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)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: DNR Construction Permit 14-A-259
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppm_v

Authority for Requirements: DNR Construction Permit 14-A-259
567 IAC 23.3(3)

Operational Limits & Requirements

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

- A. These engines are limited to burning natural gas.
- B. Each engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- C. These engines are limited to operate as emergency stationary internal combustion engines as defined in §60.4248 and in accordance with §60.4243(d). There is no time limit on the use of these engines in emergency situations provided that the annual hourly limit established in Condition B above is not exceeded. In accordance with §60.4243(d)(2)(i), each engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.

Authority for Requirement: DNR Construction Permits 13-A-543, 14-A-259
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

For unit EU-275-GEN-1 only

- A. The engine must be certified by the manufacturer to meet Subpart JJJJ requirements, and installed and configured according to the manufacturer's emission-related specifications.
- B. In accordance with §60.4243(b), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions.

Authority for Requirement: DNR Construction Permit 13-A-543
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

For unit EU-391-GEN-2 only

- A. In accordance with §60.4237(a), the engine shall be equipped with a non-resettable hour meter.
- B. The engine must be installed and configured according to the manufacturer's emission-related specifications
- C. In accordance with §60.4243(b)(1) and 60.4243(a)(1), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Authority for Requirement: DNR Construction Permit 14-A-259
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall maintain the following monthly records:
 - i. the number of hours that the engine operated for maintenance checks and readiness testing;

- ii. the total number of hours that the engine operated; and
 - iii. the rolling 12-month total amount of the number of hours that the engine operated.
- B. The owner or operator shall maintain the following annual records:
- i. the number of hours that the engine operated for maintenance checks and readiness testing.

Authority for Requirements: DNR Construction Permits 13-A-543, 14-A-259

For unit EP-275-1 only

- A. The monthly records shall include the number of hours that the engine operated for allowed non-emergency operations.
- B. The annual records shall include the number of hours that the engine operated for allowed non-emergency operations.
- C. The owner or operator shall keep record of conducted maintenance per §60.4245(a)(2) and documentation that the engine is certified to meet the standards per §60.4245(a)(3).

Authority for Requirements: DNR Construction Permit 13-A-543

40 CFR Part 60 Subpart JJJJ

567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

NESHAP:

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)(2)(i) these emergency engines, located at a major source, are new stationary RICE as they were constructed on or after December 19, 2002.

According to 40 CFR 63.6590(b)(1)(i), new emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions are not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A except for initial notification requirements of 40 CFR 63.6645(f).

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ

567 IAC 23.1(4)"cz"

DNR Construction Permits 13-A-543, 14-A-259

NSPS:

These engines are subject to 40 CFR Part 60 NSPS Subpart JJJJ – Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines* (IAC 23.1(2)"zzz"). These engines are emergency stationary internal combustion engines that were manufactured after January 1, 2011.

- i. In accordance with §60.4243(b)(1), each engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4233 (e) and §60.4243 (d). The emission standards that each engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
NOx	2.0 grams/HP-hr and 160 ppmvd at 15% O ₂	§ 60.4230 Table 1
Carbon Monoxide (CO)	4.0 grams/HP-hr and 540 ppmvd at 15% O ₂	§ 60.4230 Table 1
Volatile Organic Compounds	1.0 grams/HP-hr and 86 ppmvd at 15% O ₂	§ 60.4230 Table 1

Pollutant	Emission Standard	Basis
(VOC) ⁽¹⁾		

⁽¹⁾ For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

- ii. In accordance with §60.4243(b)(1) and §60.4243(a)(1), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. Each engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4233 (e) is required. However, if the engines are not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4243(b)(2).

Authority for Requirements: DNR Construction Permits 13-A-543, 14-A-259
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP
– Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-275-1	EU-275-GEN-1	131	8	680	1,110	Vertical Unobstructed
EP-391-6	EU-391-GEN-2	19	8	680	1,112	

Authority for Requirements: DNR Construction Permits 13-A-543, 14-A-259

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: EP-084-1 New (post-June 12, 2006) Emergency Generators, Spark Ignition, >500 HP

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-084-GEN-1	Health Sciences Academic Building NG Emergency Generator, Caterpillar Model DG500	Natural Gas	5,509 cf/hr, 760 bhp 500 kW	23-A-428-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 23-A-428-S1
567 IAC 23.3(2)"d"

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: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 23-A-428-S1
567 IAC 23.3(2)"d"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 500 ppm_v

Authority for Requirement: DNR Construction Permit 23-A-428-S1

See NSPS section below for additional emission limits.

Operational Limits & Reporting/Recordkeeping 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 engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- B. The engine:
 - (1) Is limited to operate as an emergency stationary internal combustion engine as defined in 40 CFR §60.4248 and in accordance with 40 CFR §60.4243(d). There is no time limit on the use of the engine in emergency situations provided that the annual

- hourly limit established in Condition A. is not exceeded. In accordance with 40 CFR §60.4243(d)(2), the engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.
- (2) Is also allowed to operate up to 50 hours per calendar year in non-emergency situations in accordance with 40 CFR §60.4243(d)(3), but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per calendar year for non-emergency operation cannot be used for peak shaving or non-emergency demand response or to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.
- C. The owner or operator shall maintain the following monthly records:
- (1) the number of hours that the engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that the engine operated for allowed non-emergency service and the reason for the non-emergency operation;
 - (3) the number of hours that the engine operated for emergency service;
 - (4) the total number of hours that the engine operated; and
 - (5) the rolling 12-month total amount of the number of hours that the engine operated.
- D. The owner or operator shall maintain the following annual records:
- (1) the number of hours that the engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that the engine operated for allowed non-emergency operations; and
 - (3) the total number of hours that the engine operated for maintenance checks, readiness testing, and allowed non-emergency operations.
- E. This engine shall only burn natural gas.
- F. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4243(b)(1).
- G. In accordance with 40 CFR §60.4243(b), the engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. Except as permitted in 40 CFR §60.4243(a), the owner or operator may only change emission-related engine settings that are permitted by the manufacturer.
- H. The owner or operator shall maintain the following records, per 40 CFR §60.4245(a):
- (1) All notifications submitted to comply with NSPS Subpart JJJJ and all documentation supporting any notification.
 - (2) Maintenance conducted on the engine.
 - (3) Documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 1048, 1054 and 1060 as applicable
- Authority for Requirement: DNR Construction Permit 23-A-428-S1
40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

- (1) As specified in §60.4233(e) and in accordance with §60.4243(b), owners or operators of a stationary spark ignition (SI) internal combustion engine (ICE) with a maximum engine power greater than 100 HP must comply with the applicable emission standards in Table 1 to NSPS Subpart JJJJ for their stationary SI ICE. The emission standards that the engine must be certified by the manufacturer to meet are presented in the table below:

Table 1 - NSPS Certification Standards

Pollutant	Emission Standard	Basis/Reference
Nitrogen Oxides (NO _x)	2.0 g/HP-hr or 160 ppmvd at 15% O ₂	40 CFR Part 60, Subpart JJJJ, Table 1
Carbon Monoxide (CO)	4.0 g/HP-hr or 540 ppmvd at 15% O ₂	
Volatile Organic Compounds (VOC) ⁽¹⁾	1.0 g/HP-hr or 86 ppmvd at 15% O ₂	

⁽¹⁾ For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included

- (2) In accordance with §60.4243(a)(1) and §60.4243(b)(1), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed, configured, operated, and maintained according to the manufacturer's specifications. The owner or operator must keep records of conducted maintenance to demonstrate compliance.
- (3) If the owner or operator complies with the requirements in §60.4243(b)(1) and §60.4243(a)(1), no further demonstration of compliance with the emission standards from §60.4233(e) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4243(a)(2).

Authority for Requirement: DNR Construction Permit 23-A-428-S1
40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

- (1) This reciprocating internal combustion engine is a new spark ignition 4 stroke rich burn (4SRB) with a rating greater than 500 brake HP located at a major source of HAP. This engine is an affected source per 40 CFR 63.6590(a)(2)(i); it is a new stationary reciprocating internal combustion engine located at a major source of HAP, and it is rated at more than 500 brake horsepower (hp).
- (2) In accordance with 40 CFR §63.6590(b)(1)(i), the engine does not have to meet the requirements of Part 63 subpart ZZZZ and subpart A except for the initial notification requirements of 40 CFR §63.6645(f).

Authority for Requirement: DNR Construction Permit 23-A-428-S1
40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 123

Stack Opening, (inches, dia.): 10

Exhaust Flow Rate (acfm): 4,429

Exhaust Temperature (°F): 965

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 23-A-428-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.

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: See Table: New (Post-June 12, 2006)
Emergency Generators, Spark Ignition,
< 500 HP**

Associated Equipment

Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP ^{(1) (2) (3)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMbtu/hr)	BHP	kW	Construction Date
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd Natural Gas Generator	1.01	107	80	10/01/2006 ⁽⁴⁾
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator	0.79	105	60	02/01/2007 ⁽⁴⁾
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	0.68	300	200	12/01/2006 ⁽⁴⁾
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	0.71	77.4	45	10/01/2006 ⁽⁴⁾

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are exempt from construction permitting since the rated capacity is less than 400 bhp.

⁽³⁾ All engines listed are fueled by natural gas.

⁽⁴⁾ Engine manufactured prior to 01/01/2009.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirements: 567 IAC 23.3(3)"e"

Operational Limits & Reporting/Recordkeeping 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.

NESHAP Applicability

These emergency engines are subject to 40 CFR Part 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion*

Engines (RICE). According to 40 CFR 63.6590(a)(2)(ii) these spark ignition emergency engines, located at a major source, are new stationary RICE as they were constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), these emergency engines must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ for spark ignition engines. No further requirements apply for this engine under subpart ZZZZ. These engines have model years outside the those subject to NSPS JJJJ so there are no additional requirements.

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

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: See Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP

Associated Equipment

Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP ^{(1) (2) (3)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)	BHP	kW	Construction Date
EP-037-1	EU-037-GEN-1	Art Building West Generator	2.16	302	200	11/09/2010
EP-046-5	EU-046-GEN-3	IMU Generator - Flood Mitigation	1.84	379.1	250	03/14/2014
EP-51	EU51-1	Aircare Generator	0.44	49	31	12/01/2010
EP-61	EU61-GEN-1	IRL ACF Natural Gas Generator	1.12	149	100	03/04/2014
EP-068-1	EU-068-GEN-1	CRWC Generator	0.82	383	250	01/01/2010
EP-079-1	EU-079-GEN-1	Stanley Museum of Art Generator	1.7	205	125	06/10/2020
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator	2.02	259	150	05/01/2016
EP-120-1	EU-120-GEN-1	Hancher Generator	3.54	302	200	04/17/2014
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator	3.52	379.1	250	09/09/2014
EP-137-1	EU-137-GEN-1	HRDP NG Emergency Generator	1.84	230	130	9/16/2024
EP-149-1	EU-149-GEN-1	GFWC Emergency NG Generator	0.83	85	50	08/14/2023
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator - Dewatering Wells	1.55	190	128	07/28/2013
EP-457-10	EU-457-GEN-1	HTRC Emergency Generator	0.193	18	14	05/5/2020

⁽¹⁾ All engines listed are emergency generators.

⁽²⁾ All engines listed are exempt from construction permitting since the rated capacity is less than 400 bhp.

⁽³⁾ All engines listed are fueled by natural gas.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter

Emission Limits: 0.1 gr/dscf

Authority for Requirements: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirements: 567 IAC 23.3(3)"e"

Operational Limits & Reporting/Recordkeeping 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.

NSPS and NESHAP Applicability

NESHAP:

These emergency engines are subject to 40 CFR Part 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE). According to 40 CFR 63.6590(a)(2)(ii) these spark ignition emergency engines, located at a major source, are new stationary RICE as they were constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), these emergency engines must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ for spark ignition engines. No further requirements apply for these engines under subpart ZZZZ.

Authority for Requirements: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

NSPS Subpart JJJJ Requirements

For <25 hp engines constructed after 6/12/2006 and manufactured on or after 1/1/2009:
Emergency SI (EP-457-10)

Certification Requirements:

According to 60.4231(a) and 60.4233(a), the engine manufacturers must certify these engines to the following emission standards in grams/kW-hr (grams/HP-hr) and other requirements for new nonroad SI engines in 40 CFR Part 90 or 1054 as follows:

Engine Displacement ⁽¹⁾	Manufacture Date	HC + NO _x	NMHC + NO _x ⁽²⁾	CO	Rule Reference
< 66 cc	7/1/2008 - 12/31/2011	50 (37)	-----	610 (455)	40 CFR 90
≥ 66 cc and < 100 cc	7/1/2008 - 12/31/2011	40 (30)	37 (27.6)	610 (455)	40 CFR 90
≥ 100 cc and < 225 cc	7/1/2008 - 12/31/2011	16.1 (12.0)	14.8 (11.0)	610 (455)	40 CFR 90
≥ 225 cc	7/1/2008 - 12/31/2010	12.1 (9.0)	11.3 (8.4)	610 (455)	40 CFR 90
< 225 cc	1/1/2012 +	10.0 (7.5)	-----	610 (455)	40 CFR 1054
≥ 225 cc	1/1/2011 +	8.0 (6.0)	-----	610 (455)	40 CFR 1054

⁽¹⁾ cc = cubic centimeters.

⁽²⁾ NMHC + NO_x standards are applicable only to natural gas fuel engines at the option of manufacturer in lieu of HC + NO_x standards.

Requirements for Certified SI Engines:

- Owners and operators must keep a record from the manufacturer that the engines are certified to meet applicable emission standards. 40 CFR 60.4245(a)(3).

- Owners and operators of SI engines that are required to be certified and who operate and maintain the engine according to the manufacturer's written instructions must keep records of required maintenance. 40 CFR 60.4243(a)(1).

Requirements for Non-Certified SI Engines:

1. Engines that are required to be certified that are not operated and maintained according to manufacturer's written instructions are considered to be non-certified engines. Owners and operators of such a non-certified SI engine must keep a maintenance plan and records of conducted maintenance and must maintain and operate the engine in a manner consistent with good air pollution control practice to minimize emissions. 40 CFR 60.4243(a)(2).
2. Owners and operators of non-certified engines must keep records of the documentation that these engines meet the applicable emission standards. 40 CFR 60.4245(a)(4).

For 25 hp < Engines < 100 hp, constructed after 6/12/2006 and manufactured on or after 1/1/2009: Emergency, SI

Emission Standards:

(40 CFR 60.4233(d) and Table 1 to Subpart JJJJ)

Maximum Engine Power	Manufacture Date	Emission Standards ⁽¹⁾						
		g/HP-hr				ppmvd at 15% O ₂		
		NO _x	HC + NO _x	CO	VOC ⁽²⁾	NO _x	CO	VOC
25 < HP < 130	1/1/2009+	N/A	10	387	N/A	N/A	N/A	N/A

⁽¹⁾ Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

⁽²⁾ Formaldehyde emissions are not included.

Compliance Demonstrations:

1. You must demonstrate compliance with the emission standards according to one of following methods (40 CFR 60.4243(b)):
 - a) Purchasing a certified engine that complies with the emission standards, or
 - b) Purchasing a non-certified engine and demonstrating compliance with the emission standards. You must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct performance tests to demonstrate compliance in accordance with 40 CFR 60.4244. Owners and operators are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 4243(b) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
25 < HP ≤ 500	Required	Not required

2. Owners and operators of SI engines that are required to be certified and who operate and maintain the engine according to the manufacturer's written instructions must keep records of required maintenance. 40 CFR 60.4243(b)(1), 4243(a) and 4245(a)(2).
3. Owners and operators of natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency

operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, a performance test must be conducted to demonstrate compliance with the emission standards. 40 CFR 60.4243(e).

4. If you are an owner or operator of engine ≤ 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing, but you are not required to conduct subsequent performance testing unless the engine is rebuilt or undergoes major repair or maintenance. 40 CFR 60.4243(f).
5. Owners and operators of certified engines must keep a record from the manufacturer that the engines are certified to meet applicable emission standards. 40 CFR 60.4245(a)(3).
6. Owners and operators of non-certified engines or certified engines operating in a non-certified manner must keep documentation that these engines meet the applicable emission standards. 40 CFR 60.4245(a)(4).

Operating and Recordkeeping Requirements (40 CFR 4243(d))

1. Owners and operators of the following emergency SI engines that do not meet the applicable standards for non-emergency engines must install a non-resettable hour meter. 40 CFR 60.4237.

Maximum Engine Power	Engine Was Built On Or After
HP < 130	7/1/2008

2. There is no time limit on the use of the emergency engine in emergency situations.
3. The engine may be operated for the purpose of maintenance checks and readiness testing for a maximum of 100 hours/year.
4. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing.
5. Owners and operators of an emergency engine must keep records of all operation of the engine. The owner must record the date and time of operation of the engine and the reason the engine was in operation.
6. Owners and operators of the following emergency SI that does not meet the applicable standards for a non-emergency engine must keep the following records. 40 CFR 60.4245(b).

Maximum Engine Power	Manufactured On Or After	Recordkeeping Requirement
25 < HP < 130	7/1/2008	Hours of operation recorded through a non-resettable hour meter. The owner or operator must 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.

For Engines ≥ 100 hp, constructed after 6/12/2006 and manufactured on or after 1/1/2009:
Emergency, SI

Emission Standards:

(40 CFR 60.4233(e) and Table 1 to Subpart JJJJ)

Maximum Engine Power	Manufacture Date	Emission Standards ⁽¹⁾						
		g/HP-hr				ppmvd at 15% O ₂		
		NO _x	HC + NO _x	CO ⁽²⁾	VOC ⁽³⁾	NO _x	CO	VOC
HP ≥ 130	1/1/2009+	2.0	N/A	4.0	1.0	160	540	86

⁽¹⁾ Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

⁽²⁾ See rule for alternative CO certification standards for engines ≥ 100 hp and manufactured prior to 1/1/2011.

⁽³⁾ Formaldehyde emissions are not included.

Compliance Demonstrations:

1. You must demonstrate compliance with the emission standards according to one of following methods (40 CFR 60.4243(b)):

- a) Purchasing a certified engine that complies with the emission standards, or
- b) Purchasing a non-certified engine and demonstrating compliance with the emission standards. You must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct performance tests to demonstrate compliance in accordance with 40 CFR 60.4244. Owners and operators are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 4243(b) for additional information.

25 < HP $\leq$ 500	Required	Not required

2. Owners and operators of SI engines that are required to be certified and who operate and maintain the engine according to the manufacturer's written instructions must keep records of required maintenance. 40 CFR 60.4243(b)(1), 4243(a) and 4245(a)(2).
3. Owners and operators of natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, a performance test must be conducted to demonstrate compliance with the emission standards. 40 CFR 60.4243(e).
4. If you are an owner or operator of engine ≤ 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing, but you are not required to conduct subsequent performance testing unless the engine is rebuilt or undergoes major repair or maintenance. 40 CFR 60.4243(f).
5. Owners and operators of certified engines must keep a record from the manufacturer that the engines are certified to meet applicable emission standards. 40 CFR 60.4245(a)(3).

6. Owners and operators of non-certified engines or certified engines operating in a non-certified manner must keep documentation that these engines meet the applicable emission standards. 40 CFR 60.4245(a)(4).

Operating and Recordkeeping Requirements (40 CFR 4243(d))

1. Owners and operators of the following emergency SI engines that do not meet the applicable standards for non-emergency engines must install a non-resettable hour meter. 40 CFR 60.4237.

Maximum Engine Power	Engine Was Built On Or After
$130 \leq \text{HP} < 500$	1/1/2011

2. There is no time limit on the use of the emergency engine in emergency situations.
3. The engine may be operated for the purpose of maintenance checks and readiness testing for a maximum of 100 hours/year.
4. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing.
5. Owners and operators of an emergency engine must keep records of all operation of the engine. The owner must record the date and time of operation of the engine and the reason the engine was in operation.
6. Owners and operators of the following emergency SI that does not meet the applicable standards for a non-emergency engine must keep the following records. 40 CFR 60.4245(b).

Maximum Engine Power	Manufactured On Or After	Recordkeeping Requirement
$130 \leq \text{HP} < 500$	7/1/2011	Hours of operation recorded through a non-resettable hour meter. The owner or operator must 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.

Authority for Requirements: 40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

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: EP-278-2 [New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-278-GEN-2	DSB Natural Gas Generator	Natural Gas	3.49 MMBtu/hr, 460 bhp, 300 kW	22-A-444

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 22-A-444
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: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 22-A-444
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 500 ppm_v

Authority for Requirement: DNR Construction Permit 22-A-444
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit(s): 2.0 g/HP-hr

Authority for Requirement: DNR Construction Permit 22-A-444
567 IAC 23.1(2)"zzz"

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 1.0 g/HP-hr⁽²⁾

Authority for Requirement: DNR Construction Permit 22-A-444
567 IAC 23.1(2)"zzz"

⁽²⁾Per Table 1, footnote d, NSPS Subpart JJJJ, emissions of formaldehyde should not be included

Pollutant: Carbon Monoxide (CO)

Emission Limit(s): 4.0 g/HP-hr

Authority for Requirement: DNR Construction Permit 22-A-444
567 IAC 23.1(2)"zzz"

Operational Limits & Reporting/Recordkeeping 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 engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- B. The engine:
 - (1) Is limited to operate as an emergency stationary internal combustion engine as defined in 40 CFR §60.4248 and in accordance with 40 CFR §60.4243(d). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition A. is not exceeded. In accordance with 40 CFR §60.4243(d)(2), the engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.
 - (2) Is also allowed to operate up to 50 hours per calendar year in non-emergency situations in accordance with 40 CFR §60.4243(d)(3), but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per calendar year for non-emergency operation cannot be used for peak shaving or non-emergency demand response or to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.
- C. The owner or operator shall maintain the following monthly records:
 - (1) the number of hours that the engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that the engine operated for allowed non-emergency service and the reason for the non-emergency operation;
 - (3) the total number of hours that the engine operated; and
 - (4) the rolling 12-month total amount of the number of hours that the engine operated.
- D. The owner or operator shall maintain the following annual records:
 - (1) the number of hours that the engine operated for maintenance checks and readiness testing;
 - (2) the number of hours that the engine operated for allowed non-emergency operations; and
 - (3) the total number of hours that the engine operated for maintenance checks, readiness testing, and allowed non-emergency operations.
- E. The owner or operator shall maintain the following records, per 40 CFR §60.4245(a):
 - (1) All notifications submitted to comply with NSPS Subpart JJJJ and all documentation supporting any notification.
 - (2) Maintenance conducted on the engine.
 - (3) Documentation from the manufacturer that the engine is certified to meet the

emission standards and information as required in 40 CFR parts 1048, 1054 and 1060 as applicable.

F. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in 40 CFR §60.4243(b)(1).

G. In accordance with 40 CFR §60.4243(b), the engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. Except as permitted in 40 CFR §60.4243(a), the owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Authority for Requirement: DNR Construction Permit 22-A-444
40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NESHAP Applicability

This engine is a new spark ignition 4 stroke rich burn (4SRB) with a rating less than 500 brake HP reciprocating internal combustion engine located at a major source of HAP. In accordance with 40 CFR §63.6590(c)(4), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS subpart JJJJ. No further requirements apply to this engine under Subpart ZZZZ

Authority for Requirement: DNR Construction Permit 22-A-444
40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 16

Stack Opening, (inches, dia.): 5

Exhaust Flow Rate (scfm): 800

Exhaust Temperature (°F): 1,350

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 22-A-444

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: EP-418-4 [New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-418-GEN-2	IATL Generator – Flood Mitigation	Natural Gas	4.74 MMBtu/hr, 477 bhp, 300kW	14-A-472

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 14-A-472
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 10% 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)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 14-A-472
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppmv

Authority for Requirement: DNR Construction Permit 14-A-472
567 IAC 23.3(3)"e"

Operational Limits & Requirements

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

- A. This engine is limited to burning natural gas.
- B. This engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
- C. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4248 and in accordance with §60.4243(d). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition B. above is not exceeded. In accordance with §60.4243(d)(2)(i), the engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
- D. In accordance with §60.4237(b), the engine shall be equipped with a non-resettable hour

meter.

- E. The engine must be installed and configured according to the manufacturer's emission-related specifications.
- F. In accordance with §60.4243(b)(1) and 60.4243(a)(1), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall maintain the following monthly records:
 - i. the number of hours that the engine operated for maintenance checks and readiness testing;
 - ii. the total number of hours that the engine operated; and
 - iii. the rolling 12-month total amount of the number of hours that the engine operated.
- B. The owner or operator shall maintain the following annual records:
 - i. the number of hours that the engine operated for maintenance checks and readiness testing.

Authority for Requirement: DNR Construction Permit 14-A-472
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

NSPS:

This engine is subject to 40 CFR Part 60 NSPS Subpart JJJJ – Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines* (IAC 23.1(2)"zzz"). The engine is an emergency stationary internal combustion engine that was manufactured after January 1, 2011.

- i. In accordance with §60.4243(b)(1), the engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4233 (e) and §60.4243 (d). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Nitrogen Oxides (NO _x)	2.0 grams/HP-hr and 160 ppmvd at 15% O ₂	§ 60.4230 Table 1
Carbon Monoxide (CO)	4.0 grams/HP-hr and 540 ppmvd at 15% O ₂	§ 60.4230 Table 1
Volatile Organic Compounds (VOC) ¹	1.0 grams/HP-hr and 86 ppmvd at 15% O ₂	§ 60.4230 Table 1

¹ For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

- ii. In accordance with §60.4243(b)(1) and §60.4243(a)(1), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4233 (e) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4243(b)(2).

Authority for Requirement: DNR Construction Permit 14-A-472
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NESHAP:

This engine is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for *Stationary Reciprocating Internal Combustion Engines* (40 CFR Part 63, Subpart ZZZZ).

The engine is a new 4 stroke rich burn (4SRB) reciprocating internal combustion engine located at a major source of HAP, and it is rated at less than 500 HP. In accordance with §63.6590 (c(4)), the engine meets the requirements of Part 63 subpart ZZZZ and subpart A by meeting the requirements of 40 CFR Part 60 Subpart JJJJ.

Authority for Requirement: DNR Construction Permit 14-A-472
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 14.5

Stack Opening, (inches, dia.): 5

Exhaust Flowrate (scfm): 580 (2,076 acfm)

Exhaust Temperature (°F): 1,450

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 14-A-472

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: See Table: Storage Tanks

Associated Equipment

Table: Storage Tanks

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity (gallons)	Construction Permit
EP-22	EU22-1	Pappajohn Pavilion Fuel Tank	Diesel Fuel	15,000	99-A-582-S1

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.

There are no emission limits at this time.

Operational Limits & Reporting/Recordkeeping 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.

1. This tank shall store only Diesel Fuel #1 or #2.

Authority for Requirements: DNR Construction Permits 99-A-582-S1

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Storage Tanks – Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-22	EU22-1	3.5	2.5	100	Ambient	Downward Discharge

Authority for Requirements: DNR Construction Permits 99-A-582-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.

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: EP-15

Associated Equipment

Table: Paint Booths

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity (gal/hr)
EP-15	EU15-1	Boyd Tower Paint Booth	CE-15-1: Dry Filters	Paint	9.375

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: Paint Booths-Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (gr./dscf) 567 IAC 23.4(13)	PM ₁₀ Limit (lb/hr)	VOC Limit (TPY)	HAP Limit Single & Total (TPY)	Authority for Requirement
EP-15	EU15-1	40% ⁽¹⁾	0.01	N/A	N/A	N/A	94-A-250-S4

⁽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).

Operational Limits & Requirements

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

Table: Paint Booth-Operational Limits & Requirements

Emission Point	Emission Unit	Rolling 12-month Materials Usage Limit	Coatings VOC Limit (lb/gal)	Coatings Solids Limit (lb/gal)	Total HAP Limit (lb/gal)	Reporting & Recordkeeping Requirements ⁽¹⁾	Authority for Requirements
EP-15	EU15-1	1,282 gal	7.8	N/A	N/A	1. Record the monthly materials usage in each booth. 2. Record the rolling 12-month total of materials used in each booth. 3. Maintain MSDS of all materials used in each booth.	94-A-250-S4

⁽¹⁾ All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Additional Operating Limits & Requirements:

1. Only one spray gun shall be operated at any one time.

Authority for Requirement: DNR Construction Permit 94-A-250-S4

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. Maintain manufacturer's documentation for any spray gun used.
2. Maintain manufacturer's documentation for the filters used.

Authority for Requirement: DNR Construction Permit 94-A-250-S4

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Paint Booths – Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-15	EU15-1	96.3	28	9,000	Ambient	Vertical

Authority for Requirements: DNR Construction Permits 94-A-250-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 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 ☐
Required for CE-15-1

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

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

Spray Booth Filter Agency Operation & Maintenance Plan

Monthly

- On a monthly basis, inspect the spray booth system for conditions that reduce the operating efficiency of the collection system. This will include a visual inspection of the condition of the filter material.
- Maintain a written record of the observation and any action resulting from the inspection.

Recordkeeping and Reporting

- Maintenance and inspection records will be kept for five years and available upon request.

Quality Control

- The filter equipment will be operated and maintained according to the manufacturers' recommendations.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: See Table: Pharmacy Tablet Manufacturing

Associated Equipment

Table: Pharmacy Tablet Manufacturing

Emission Point	Emission Unit	Emission Unit Description	Control Equipment (Initial)	Control Equipment (Intermediate)	Control Equipment (Final)
EP-006-4 EP-006-5 EP-006-6 EP-006-7	EU-006-TAB-1	Pharmacy Tablet Manufacturing-Room 44C	CE-006-1: Baghouse	CE-006-14: Dry Pre-filter CE-006-15: HEPA Filter CE-006-29: Dry Pre-filter CE-006-30: HEPA Filter	CE-006-16: Dry Pre-filter
	EU-006-TAB-2	Pharmacy Tablet Manufacturing-Room 32A	CE-006-17: Dry Pre-filter		
			CE-006-2: Dry Pre-filter		
			CE-006-13: HEPA Filter		
	EU-006-TAB-3	Pharmacy Tablet Manufacturing-Room 32H	CE-006-18: Dry Pre-filter		
			CE-006-3: Dry Pre-filter		
			CE-006-12: HEPA Filter		
	EU-006-TAB-4	Pharmacy Tablet Manufacturing-Room 32C	CE-006-19: Dry Pre-filter		
			CE-006-4: Dry Pre-filter		
			CE-006-11: HEPA Filter		
	EU-006-TAB-5	Pharmacy Tablet Manufacturing Room 32F	CE-006-20: Dry Pre-filter		
			CE-006-5: Dry Pre-filter		
			CE-006-10: HEPA Filter		
	EU-006-TAB-6	Pharmacy Tablet Manufacturing Room 41B	CE-006-21: Dry Pre-filter		
			CE-006-22: Dry Pre-filter		
			CE-006-6: Dry Pre-filter		
			CE-006-23: Dry Pre-filter		
			CE-006-9: HEPA Filter		
	EU-007-TAB-7	Pharmacy Tablet Manufacturing Room 43E	CE-006-24: HEPA Filter		
			CE-006-25: Dry Pre-filter		
			CE-006-7: Dry Pre-filter		
			CE-006-26: Dry Pre-filter		
			CE-006-27: Dry Pre-filter		
	EU-006-LAB3-1	Third Floor Labs	CE-006-8: HEPA Filter		
			CE-006-28: HEPA Filter		
	EU-006-LAB5-1	Fifth Floor Labs	None	NA	NA
	EU-006-LAB5-1	Fifth Floor Labs	None	NA	NA

Emission Unit	Raw Material	Rated Capacity	DNR Construction Permit
EU-006-TAB-1	Various Pharmaceutical Materials	55.00 kg/hr	99-A-943-S5 99-A-944-S5 99-A-945-S5 99-A-946-S5
EU-006-TAB-2	Various Pharmaceutical Materials	10.0 kg/hr	
EU-006-TAB-3	Various Pharmaceutical Materials	10.0 kg/hr	
EU-006-TAB-4	Various Pharmaceutical Materials	10.0 kg/hr	
EU-006-TAB-5	Various Pharmaceutical Materials	10.0 kg/hr	
EU-006-TAB-6	Various Pharmaceutical Materials	10.0 kg/hr	
EU-007-TAB-7	Various Pharmaceutical Materials	10.0 kg/hr	
EU 006-LAB3-1	Lab Materials	61,850 ft ³ /min	
EU 006-LAB5-1	Lab Materials	61,850 ft ³ /min	

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below

Per Emission Point

Pollutant: Opacity

Emission Limit: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permits 99-A-943-S5, 99-A-944-S5,
99-A-945-S5, 99-A-946-S5
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)

Emission Limit: 0.53 lb/hr⁽²⁾, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 99-A-943-S5, 99-A-944-S5,
99-A-945-S5, 99-A-946-S5
567 IAC 23.3(2)"a"(1)

⁽²⁾PM₁₀ and PM_{2.5} potential emissions are assumed to be equal to PM potential emissions. The PM₁₀ and PM_{2.5} emission rates also demonstrate Project Number 05-372 was minor modification for PSD purposes.

Combined Emission Limit

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit: 1.5 tons/yr

Authority for Requirements: DNR Construction Permits 99-A-943-S5, 99-A-944-S5,
99-A-945-S5, 99-A-946-S5

Operational Limits & Reporting/Recordkeeping 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.

General Requirements

- A. In accordance with the programming of the exhaust fans, only two of the four exhaust fans used in the Pharmacy Tablet Manufacturing Rooms shall be in operation at any one time.
 - 1) The owner or operator shall develop and maintain standard operating procedures (SOP) for the operation of the fans associated with the Pharmacy Tablet Manufacturing Rooms.
 - a. At a minimum, the SOP shall include procedures to ensure the number of fans that are operated at any one time does not exceed the maximum required in Condition A.
- B. The owner or operator shall operate, inspect, and maintain the control equipment described in Permit Condition 1 according to the manufacturer's specifications and

instructions.

- 1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. At a minimum, this log shall include any issues identified during inspection and maintenance activities and the date each issue was resolved.

VOC Emission Calculations and Recordkeeping Requirements

- C. The total amount of VOC emitted from the Pharmacy Tablet Manufacturing Rooms associated with Emission Points 006-4, 006-5, 006-6, and 006-7 shall not exceed 1.5 tons in any 12-month rolling period.
 - 1) The owner or operator shall calculate the total amount, in tons, of VOC emitted from the Pharmacy Tablet Manufacturing Rooms associated with Emission Points 006-4, 006-5, 006-6, and 006-7 as indicated below:
 - a. For each batch of pharmaceuticals that includes a VOC or VOC-containing material, the owner or operator shall maintain information on the identification and amount of the VOC and VOC-containing material, the VOC loss factor, and the amount of VOC emitted (in pounds).
 1. The owner or operator shall determine the VOC loss factor for each final product by material balance or other acceptable methodology.
 - i. If no loss factor is determined for a final product, the VOC loss factor shall be 100% of the VOC used in a batch.
 2. The owner or operator shall determine the amount, in pounds, of VOC emitted for each batch by multiplying the amount of VOC used in a batch by the VOC loss factor.
 - b. The owner or operator shall maintain records on the identification and the amount of VOC or VOC-containing materials that are used in cleanup activities.
 1. The owner or operator shall assume that 100% of the VOC used in cleanup activities is emitted.
 - 2) The owner or operator shall record the total monthly amount, in tons, of VOC emitted from all batches and cleanup activities.
 - 3) The owner or operator shall calculate and record the total monthly amount, in tons, of VOC emitted from all batches and cleanup activities on a rolling 12-month basis.
- D. The owner or operator shall submit a report that identifies any exceedances of the rolling 12-month VOC emission limitation.
 - 1) The owner or operator shall submit the report to the Department as indicated in General Condition G14 no later than 30 days from the end of the month in which the exceedance occurred.
- E. If the 12-month rolling total amount of VOC emitted from all batches and cleanup activities exceeds *1.2 tons*, the owner or operator shall immediately begin calculating daily VOC emissions from all batches and cleanup activities.
 - 1) The owner or operator shall record the total amount, in tons, of VOC emitted from all batches and cleanup activities on a rolling 365-day basis.
 - 2) Calculation and recordkeeping of VOC emissions from data collected on Saturdays and Sundays shall be conducted on Mondays.

- 3) Calculation and recordkeeping of VOC emissions shall not be required when emissions do not occur.
- 4) Daily emission calculations and recordkeeping of VOC emissions from all batches and cleanup activities shall continue until the rolling 12-month total VOC emissions drops below *1.2 tons* for that calendar month plus one additional calendar month, at which time, rolling daily calculations of VOC emissions from all batches and cleanup activities shall cease.

NESHAP Requirements

F. The Pharmacy Tablet Manufacturing Rooms associated with Emission Points 006-4, 006-5, 006-6, and 006-7 are subject to 40 CFR Part 63, Subpart GGG (*National Emission Standards for Pharmaceuticals Production*) [§63.1250 – §63.1261]; therefore, the owner or operator shall comply with the applicable requirements, including those not specifically mentioned in this permit.

- 1) The owner or operator shall maintain the following records:
 - a. All emission units (e.g., storage tanks, process vents, equipment components, etc.) in each of the Pharmacy Tablet Manufacturing Room.
 - b. A list of NESHAP GGG applicable requirements for each unit.
 - c. If there are no NESHAP GGG applicable requirements for an emission unit, the reason(s) there are no requirements for the unit.
- 2) The owner or operator shall comply with the monitoring, recordkeeping, and reporting requirements in §§63.1258, 63.1259, and 63.1260, respectively.

Authority for Requirements: DNR Construction Permits 99-A-943-S5, 99-A-944-S5,
99-A-945-S5, 99-A-946-S5
40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"

NESHAP Applicability

The following units, EU-006-TAB-1, EU-006-TAB-2, EU-006-TAB-3, EU-006-TAB-4, EU-006-TAB-5, EU-006-TAB-6, and EU-006-TAB-7, are subject to 40 CFR 63 Subpart GGG - National Emission Standards for Hazardous Air Pollutants for Pharmaceuticals Production (§63.1250 – §63.1261) and to 40 CFR 63 Subpart A – General Provisions. The Third Floor Labs (EU-006-LB3-1) and the Fifth Floor Labs (EU-006-LB5-1) are not affected emission units under the federal standards for emissions of hazardous air pollutants for source categories, as defined in 40 CFR Part 63, because there are no applicable categories at this time.

Authority for Requirement: DNR Construction Permits 99-A-943-S5, 99-A-944-S5,
99-A-945-S5, 99-A-946-S5
40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-006-4	See Pharmacy Tablet Manufacturing Table	105.8	105	61,850	68	Vertical Unobstructed
EP-006-5		105.8	105	61,850	68	
EP-006-6		105.8	105	61,850	68	
EP-006-7		105.8	105	61,850	68	

Authority for Requirements: DNR Construction Permits 99-A-943-S5, 99-A-944-S5, 99-A-945-S5, 99-A-946-S5

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: EP-106-2

Associated Equipment

Table: Pharmaceutical Manufacturing Process Unit

Emission Unit	Emission Unit Description	Control Equipment Number	Control Equipment	Raw Material	Rated Capacity (lb/hr)
EU-106-PMPU-1	Formulation Room 1	CE-106-1: HEPA Filter CE-106-2: HEPA Filter	CE-106-27: HEPA Filter	Various Pharmaceutical Materials	55
	Filler & Stopper Isolator 1	CE-106-3: HEPA Filter CE-106-4: HEPA Filter CE-106-5: HEPA Filter			
	T-Switch Isolator 1	CE-106-6: HEPA Filter CE-106-7: HEPA Filter			
	Capper Isolator 1	CE-106-8: HEPA Filter CE-106-9: HEPA Filter			
	Conveyor Isolator 1	CE-106-10: HEPA Filter CE-106-11: HEPA Filter			
	LyoLoad Isolator 1	CE-106-12: HEPA Filter CE-106-13: HEPA Filter			
	Formulation Room 2	CE-106-14: HEPA Filter CE-106-15: HEPA Filter			
	Filler & Stopper Isolator 2	CE-106-16: HEPA Filter CE-106-17: HEPA Filter CE-106-18: HEPA Filter			
	T-Switch Isolator 2	CE-106-19: HEPA Filter CE-106-20: HEPA Filter			
	Capper Isolator 2	CE-106-21: HEPA Filter CE-106-22: HEPA Filter			
	Conveyor Isolator 2	CE-106-23: HEPA Filter CE-106-24: HEPA Filter			
	LyoLoad Isolator 2	CE-106-25: HEPA Filter CE-106-26: HEPA Filter			
	Parts Washer	None			

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 19-A-107
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 (PM₁₀)
Emission Limit: 0.06 lb/hr
Authority for Requirement: DNR Construction Permit 19-A-107

Pollutant: Particulate Matter (PM)
Emission Limit: 0.06 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 19-A-107
567 IAC 23.3(2)"a"

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 2.26 tons/yr
Authority for Requirement: DNR Construction Permit 19-A-107

Pollutant: Total HAP
Emission Limit: 0.992 tons/yr
Authority for Requirement: DNR Construction Permit 19-A-107
40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"

Operational Limits & Reporting/Recordkeeping 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. For each batch of pharmaceuticals that includes a VOC or VOC containing material, the owner or operator shall maintain information on the identification and amount of the VOC and VOC containing material, the VOC loss factor, and the amount of VOC emitted (in pounds). The amount of VOC emitted for each batch shall be determined by multiplying the amount of VOC used in a batch by the VOC loss factor. The VOC loss factor shall be determined by the owner or operator for each final product by material balance or other acceptable methodology. If no loss factor is determined for a final product, the VOC loss factor shall be 100% of the VOC used in a batch.
- B. The owner or operator shall maintain records on the identification and the amount of VOC or VOC containing materials that are used in cleanup activities (100% of the VOC used in cleanup activities is assumed to be emitted).
- C. The owner or operator shall maintain the following monthly records:
 - 1) The amount of VOC emitted from all batches and cleanup activities; and,
 - 2) The rolling twelve (12) month total amount of VOC emitted from all batches and cleanup activities.
- D. For each batch of pharmaceuticals that includes a HAP or HAP containing material, the owner or operator shall maintain information on the identification and amount of the HAP and HAP containing material, the HAP loss factor, and the amount of HAP emitted (in pounds). The amount of HAP emitted for each batch shall be determined by multiplying the amount of HAP used in a batch by the HAP loss factor. The HAP loss factor shall be determined by the owner or operator for each final product by material balance or other

acceptable methodology, per 40 CFR §63.1257. If no loss factor is determined for a final product, the HAP loss factor shall be 100% of the HAP used in a batch.

- E. The owner or operator shall not use any HAP or HAP-containing materials in its cleanup activities.
- F. The owner or operator shall maintain the following monthly records:
 - 1) The monthly total HAP emissions, in tons, from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for all batches; and,
 - 2) The rolling 12-month total HAP emissions, in tons, from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for all batches.
- G. If the rolling, 12-month total HAP emissions from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for all batches exceed 0.75 tons per 12-month rolling period, the facility shall maintain the following daily records:
 - 1) The total emissions of all HAPs (tons) from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for this facility; and,
 - 2) The rolling 365-day total amount of total HAP emissions from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for this facility.Daily recordkeeping/calculations for total HAP emissions from all process vents in pharmaceutical production that are not reducing emissions of uncontrolled HAP by at least 98% by weight for this facility shall continue until the rolling 12-month total amount of total HAP emissions drops below 0.75 tons on the last day of a month. Monthly calculation of total HAP emissions will then begin in the following month.
- H. The owner or operator may take credit for any HAP-containing material in the pharmaceutical manufacturing operations for this facility recycled on-site. The owner or operator shall record the amount of material recovered. The credit may be subtracted from the HAP rolling totals as of the date the recovered material is returned to production.
- I. Retain Safety Data Sheets (SDS) for all HAP containing materials used in the pharmaceutical manufacturing operations for this facility.
- J. The owner or operator shall maintain a log of:
 - 1) All emission units (i.e. storage tanks, process vents, equipment leaks, etc.) in all of the pharmaceutical manufacturing operations; and,
 - 2) Either a list of NESHAP GGG applicable requirements for each unit or the reason(s) there are no applicable NESHAP GGG requirements for the unit.
- K. The pharmaceutical manufacturing process unit is subject to the following NESHAP Subpart GGG standards:
 - 1) The owner or operator shall follow any applicable operating requirements and standards in NESHAP Subpart GGG, 40 CFR §63.1254 and 40 CFR §63.1257.
 - 2) The owner or operator shall follow any applicable operating condition monitoring and recordkeeping requirements in NESHAP Subpart GGG, 40 CFR §63.1258 and 40 CFR §63.1259.
 - 3) The owner or operator shall follow any applicable reporting requirements in NESHAP Subpart GGG, 40 CFR §63.1260.

- L. The owner or operator shall inspect and maintain the dry filters according to the manufacturer's specifications.
- 1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment described in this permit. At a minimum, this log shall include:
 - a. The date that any inspection and/or maintenance was performed on the control equipment;
 - b. Any issues identified during the inspection; and,
 - c. Any issues addressed during the maintenance activities and the date each issue was resolved.

Authority for Requirement: DNR Construction Permit 19-A-107
40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"

Emission Point Characteristics

This emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 127

Stack Opening, (inches, dia.): 25.4

Exhaust Flowrate (acfm): 7,000

Exhaust Temperature (°F): 70

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 19-A-107

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: See Table: Boilers and Water Heaters

Associated Equipment

Table: Boilers and Water Heaters ^{(1) (2)}

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity (MMBtu/hr)
EP-055-3	EU-055-BLR-2	Obermann Steam Boiler #2	0.45
EP-300-1	EU-300-BLR-1	Jefferson Building Boiler	4
EP-300-2	EU-300-BLR-2	Jefferson Building Boiler	4
EP-391-1	EU-391-BLR-1	Mayflower Boiler #1	6
EP-391-4	EU-391-BLR-2	Mayflower Boiler #2	6
EP-391-5	EU-391-BLR-3	Mayflower Boiler #3	2.4
EP-395-1	EU-395-BLR-1	Hansen Football Performance Center Boiler #1	4
EP-395-2	EU-395-BLR-2	Hansen Football Performance Center Boiler #2	4
EP-395-3	EU-395-BLR-3	Hansen Football Performance Center Boiler #3	4
EP-434-1	EU-434-BLR-1	Levitt Center Hot Water Boiler #1	1.9
EP-434-3	EU-434-BLR-2	Levitt Center Hot Water Boiler #2	1.9
EP-434-5	EU-434-BLR-3	Levitt Center Hot Water Boiler #3	1.9
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	3.94
EP-441-18	EU-441-BLR-4	Laundry Building Boiler #4	3.94

⁽¹⁾ All boilers listed are exempt from construction permitting since the rated capacity is less than 10 MMBtu/hr.

⁽²⁾ All boilers listed are fueled by natural gas.

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limits: 0.6 lb/MMBtu

Authority for Requirements: 567 IAC 23.3(2)"b"(2)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirements: 567 IAC 23.3(3)"e"

Operational Limits & Reporting/Recordkeeping 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.

NSPS and NESHAP Applicability

Each unit is subject to the requirements of Subparts A (General Provisions; 40 CFR §63.1 – 40 CFR §63.15) and 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants: *Industrial, Commercial and Institutional boilers and process heaters.*

Authority for Requirements: 40 CFR Part 63 Subpart DDDDD

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: EP-674-1

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-674-BLR-1	Boiler 1 NG and Fuel Oil	Natural Gas and Fuel Oil	22.1 MMBtu/hr	08-A-622-S1
EU-674-BLR-2B	Boiler 2B NG and Fuel Oil		10 MMBtu/hr	
EU-674-BLR-3	Boiler 3 NG and Fuel Oil		10 MMBtu/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 08-A-622-S1
567 IAC 23.3(2)"d"

⁽¹⁾An exceedance of the indicator opacity of 10% 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 (PM₁₀)

Emission Limit(s): 0.83 lb/hr

Authority for Requirement: DNR Construction Permit 08-A-622-S1

Pollutant: Particulate Matter (PM)

Emission Limit(s): 1.2 lb/hr, 0.6 lb/MMBtu/hr

Authority for Requirement: DNR Construction Permit 08-A-622-S1
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 2.04 lb/hr (Fuel Oil), 500 ppm_v (Natural Gas)

Authority for Requirement: DNR Construction Permit 08-A-622-S1
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit(s): 6.3 lb/hr, 22 lb/1000 gallons (Fuel Oil), 0.11 lb/MMBtu (Natural Gas)

Authority for Requirement: DNR Construction Permit 08-A-622-S1

Operational Limits & Reporting/Recordkeeping 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. These boilers are to be fired by natural gas or distillate oil (i.e., #1 or #2 fuel oil) only. Prior to burning any other fuel in this unit, the permittee shall obtain a new permit from the IDNR.
- B. The sulfur content of the oil burned in these units shall not exceed 0.5% by weight. This limit applies at all times, including periods of startup, shutdown, and malfunctions. In accordance with §60.44c(h), compliance with the fuel oil sulfur limit shall be based on fuel supplier certification and shall contain the information required in §60.48c(f)(1).
- C. The owner or operator shall submit an exceedance report to the Air Quality Bureau if the sulfur content of the fuel oil ever exceeds 0.5 percent by weight. This report shall be submitted no later than 30 days after the exceedance and shall provide information on the sulfur content and the quantity of the oil burned.
- D. The owner or operator shall maintain records of the amount of each fuel combusted during each calendar month, per §60.48c(g)(2) or (3).
- E. The owner or operator shall keep records as required by §60.48c(e)(11) and submit reports semi-annually as required by §60.48c(d) and §60.48c(e).
- F. Each boiler is limited to combusting liquid fuels only during periods of gas curtailment or gas supply interruptions, or else for 48 hours per calendar year for periodic testing, maintenance or operator training purposes.
 - a. The owner or operator shall keep monthly records of the number of hours each unit combusts liquid fuel, along with the reason.
 - b. The owner or operator shall calculate at the end of each calendar year the number of hours each boiler combusted liquid fuels for periodic testing, maintenance, or operator training purposes.

Authority for Requirement: DNR Construction Permit 08-A-622-S1
40 CFR 60 Subpart Dc
567 IAC 23.1(2)"III"

NSPS Applicability

EU-674-BLR-2B and EU-674-BLR-3 are subject to the requirements of Subparts A (General Provisions; 40 CFR §60.1 – §60.19) and 40 CFR 60, Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units.

Authority for Requirement: DNR Construction Permit 08-A-622-S1
40 CFR 60 Subpart Dc
567 IAC 23.1(2)"III"

NESHAP Applicability

Each unit is subject to the requirements of Subparts A (General Provisions; 40 CFR §63.1 – 40 CFR §63.15) and 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants: *Industrial, Commercial and Institutional boilers and process heaters*.

Authority for Requirements: 40 CFR Part 63 Subpart DDDDD

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 47

Stack Opening, (inches, dia.): 48x48*

Exhaust Flow Rate (scfm): 3,733

Exhaust Temperature (°F): 375

Discharge Style: Vertical unobstructed

Authority for Requirement: DNR Construction Permit 08-A-622-S1

* Observed stack diameter is less than the permitted value. The facility shall submit a construction modification within 90 days of Title V issuance to correct this values.

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: EP-204-1

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-204-INC-1	Crematorium – Natural Gas Combustion	CE-204-1: Afterburner	Natural Gas	1.4 MMBtu/hr	87-A-156-S1
EU-204-INC-1A	Crematorium – Pathological Waste Combustion		Pathological Waste	0.125 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⁾⁽²⁾

Authority for Requirement: DNR Construction Permit 87-A-156-S1
567 IAC 23.4(12)"b"

⁽¹⁾ No person shall allow, cause or permit the operation of an incinerator in a manner such that it produces visible air contaminants in excess of 40 percent opacity; except that visible air contaminates in excess of 60 percent opacity may be emitted for a period or period aggregation not more than 3 minutes in any 60-minute period during an operation breakdown or during the cleaning of air pollution control equipment.

⁽²⁾ An exceedance of the indicator opacity of (25%) 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 (PM₁₀)

Emission Limit: 0.80 lb/hr

Authority for Requirement: DNR Construction Permit 87-A-156-S1

Pollutant: Particulate Matter (PM)

Emission Limit: 0.35 gr/dscf

Authority for Requirement: DNR Construction Permit 87-A-156-S1
567 IAC 23.4(12)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirement: DNR Construction Permit 87-A-156-S1
567 IAC 23.3(3)"e"

Operational Limits & Requirements

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

1. The incinerator, emission unit EU-204-INC-1, shall only combust pathological waste as defined in 40 CFR 60.51c.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. Notify the Administrator in writing of an exemption claim.
2. Keep records on a calendar quarter basis of the periods of time when only pathological waste is burned.

Authority for Requirement: DNR Construction Permit 87-A-156-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 58

Stack Opening, (inches, dia.): 18

Exhaust Flowrate (scfm): 1,550

Exhaust Temperature (°F): 385

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 87-A-156-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.

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: Cooling Towers

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP-674-8	EU-674-CT-1	Cooling Tower #1	Mist Eliminator (CE-674-1), 0.01% drift loss	Water	1 Cell, 999 gal/min	24-A-263
EP-674-9	EU-674-CT-2	Cooling Tower #2	Mist Eliminator (CE-674-2), 0.01% drift loss		1 Cell, 988 gal/min	24-A-264
EP-674-10	EU-674-CT-3	Cooling Tower #3	Mist Eliminator (CE-674-3), 0.01% drift loss		1 Cell, 925 gal/min	24-A-265
EP-674-11	EU-674-CT-4	Cooling Tower #4	Mist Eliminator (CE-674-4), 0.01% drift loss		2 Cells, 1,950 gal/min	24-A-266
EP-674-12	EU-674-CT-5	Cooling Tower #5	Mist Eliminator (CE-674-5), 0.01% drift loss		1 Cell, 1,275 gal/min	24-A-267

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Each Emission Point

Pollutant: Opacity

Emission Limit(s): 40%⁽¹⁾

Authority for Requirement: DNR Construction Permit – See Table Above
567 IAC 23.3(2)"d"

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: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit – See Table Above
567 IAC 23.3(2)"a"

EP-674-8, EP-674-9, and EP-674-10 Only

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 lb/hr

Authority for Requirement: DNR Construction Permit – 24-A-263, 24-A-264, 24-A-265

EP-674-11 and EP-674-12 Only

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.2 lb/hr

Authority for Requirement: DNR Construction Permit – 24-A-266, 24-A-267

Combined Emission Limit

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 3.0 tons/year

Authority for Requirement: DNR Construction Permit – See Table Above

Operational Limits & Reporting/Recordkeeping 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 Total Dissolved Solids (TDS) of the water used in these emission units shall not exceed 2,000 ppm by weight for any single sampling event.
- B. The owner or operator shall analyze and record the TDS content of the water used in these emission units once per calendar quarter. Approved testing methods include conductivity testing with a correlation to determine the TDS concentrations.
- C. Chromium based water treatment chemicals shall not be used in these emission units.
- D. The total maximum amount of VOC-containing water treatment chemicals used for the cooling towers at this location (EU-674-CT-1, EU-674-CT-2, EU-674-CT-3, EU-674-CT-4, and EU-674-CT-5) shall not exceed 3,000 gallons per rolling twelve month period.
- E. The maximum VOC content of any water-treatment chemical used for the cooling towers at this location (EU-674-CT-1, EU-674-CT-2, EU-674-CT-3, EU-674-CT-4, and EU-674-CT-5) shall not exceed 2.0 lb/gal.
- F. The owner or operator shall keep monthly records of the amount of VOC-containing water treatment chemicals used for the cooling towers at this location (EU-674-CT-1, EU-674-CT-2, EU-674-CT-3, EU-674-CT-4, and EU-674-CT-5), and update the twelve month rolling total monthly.
- G. The owner or operator shall keep Safety Data Sheets (SDS) of all water treatment chemicals used in the cooling towers at this location.
- H. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
- I. The owner or operator shall keep a record of all inspections and maintenance of the control units, and any action taken as a result.

Authority for Requirement: DNR Construction Permit – See Table Above

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Emission Point Number	Associated Emission Unit Number	Stack Characteristics				Discharge Style
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	
EP-674-8	EU-674-CT-1	15.8	101.75	85,720	100	Vertical Unobstructed
EP-674-9	EU-674-CT-2	15.8	100.75	112,010	100	
EP-674-10	EU-674-CT-3	15.8	100.75	84,618	100	
EP-674-11	EU-674-CT-4	37.4	141.75	159,950	100	
EP-674-12	EU-674-CT-5	15.8	100.75	118,500	100	

Authority for Requirement: DNR Construction Permit – See Table Above

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)

V. Facility Description and Equipment List – Power Plant

Facility Name: University of Iowa

Permit Number: 00-TV-002R4 **Draft**

Facility Description: University (SIC 8221)

Equipment List

A. Existing (Pre-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PP27	EU-PP27	Emergency Diesel Generator	97-A-1035
EP-185-2	EU-185-GEN-1	Water Plant Generator	99-A-448-S2

B. Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PORTGEN-2	EU-PORT-GEN-2	Portable Generator 2	04-A-428-S2

C. New (Post-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	09-A-481-S2
EP-PORTGEN-1	EU-PORT-GEN-1	Portable Generator	10-A-073-S1

D. New (Post-December 19, 2002) Generators, Spark Ignition, >500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-240-1	EU-240-GEN-1	Jenbacher Model JGS420 Gas-fired IC Engines	09-A-395-S3
	EU-240-GEN-2	Jenbacher Model JGS420 Gas-fired IC Engines	
EP-PP52.1	EU-PP52.1	Natural Gas-Fired Generator	12-A-508
EP-PP52.2	EU-PP52.2	Natural Gas-Fired Generator	12-A-509
EP-PP52.3	EU-PP52.3	Natural Gas-Fired Generator	12-A-510
EP-PP52.4	EU-PP52.4	Natural Gas-Fired Generator	12-A-511

E. New (Post-June 12, 2006) Emergency Generators, Compression Ignition, <500 HP

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-308-1	EU-308-GEN-1	WCCWP Generator	Exempt

F. Cooling Towers

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-026-2	EU-026-CT-1	UHL Cooling Tower 1	15-A-169
EP-026-3	EU-026-CT-2	UHL Cooling Tower 2	15-A-170
EP-240-2	EU 240-CT-1	Cooling Tower 1 ⁽¹⁾	09-A-396-S2
EP-240-3	EU-240-CT-2	Cooling Tower 2	15-A-168-S1
EP-240-4	EU-240-CT-3	Cooling Tower 3	25-A-059
EP-422-1	EU-422-CT-1	Chilled Water Plant 4 Cooling Tower	25-A-091

G. WCCWP Cooling Towers

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-308-2	EU-308-CT-1	WCCWP Cooling Tower 1	07-A-497
EP-308-3	EU-308-CT-2	WCCWP Cooling Tower 2	07-A-498
EP-308-4	EU-308-CT-3	WCCWP Cooling Tower 3	17-A-629

H. Boilers

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-239-1	EU-OD#2	Oakdale Boiler #2 ⁽¹⁾	78-A-023-S10
	EU-OD#3	Oakdale Boiler #3 ⁽¹⁾	
	EU-OD#4	Oakdale Boiler #4 ⁽¹⁾	
	EU-239-BLR-5	Hurst Boiler # 5 ⁽¹⁾	
	EU-239-GSFR-1	Gasifier ⁽¹⁾	
EP-PP03	EU-PP03	Boiler No.7	91-A-064 & PSD
EP-PP04	EU-PP04	Boiler No.8	91-A-063 & PSD
EP-PP06	EU-PP06	Boiler No. 10	75-A-282-S8 & PSD
EP-PP07	EU-PP07	Boiler No.11	95-A-438-P4 & PSD
EP-PP43	EU-PP43	Boiler T1	06-A-778-S4
EP-PP44	EU-PP44	Boiler T2	06-A-779-S4
EP-PP55	EU-PP55	Boiler 12	17-A-106
EP-18	EU-18	Pomerantz Family Pavilion Boiler	09-A-197

I. Coal, Ash, and Sorbent Handling and Storage

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PP08	EU-PP08	Coal Crusher # 1	87-A-113-P1
EP-PP09	EU-PP09	Coal Crusher # 2	87-A-114-P1
EP-PP10	EU-PP10	Coal Silo # 1	87-A-115-S1
EP-PP11	EU-PP11	Coal Silo # 2	87-A-116-S1

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PP12	EU-PP12	Coal Silo # 3	87-A-117-P2
EP-PP13	EU-PP13	Limestone Silo	94-A-199-S1
EP-PP14A	EU-PP14A	Ash Silo	23-A-006-P PSD
EP-PP14B	EU-PP14B	Ash Conveying	96-A-1125-S1
EP-PP14C	EU-PP14C	Ash Silo Truck Loadout	23-A-007-P
EP-PP28	EU-PP28	Coal Unloading Pit	87-A-120
EP-PP30	EU-PP30	Minibunker 11	95-A-439-S1
	EU-PP31	Coal Crusher No.3	
	EU-PP32	Coal Crusher No.4	
EP-PP48	EU-PP48	South Conveyor	12-A-455-S1
EP-PP49	EU-PP49	Transfer Conveyor	12-A-456-S1
EP-PP50	EU-PP50	Conveyor Discharge	12-A-457-S1

J. Biomass Handling and Storage

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PP40	EU-PP40	Biomass Silo Dust Collector	03-A-1149-S1
EP-PP41	EU-PP41A	Biomass Unloading/Conveying	03-A-1150-S1
EP-PP42	PP41A-FUG	Biomass Unloading Fugitives	
EP-239-4	239-DRC-1	Hurst Boiler Biomass Fuel Unloading ⁽¹⁾	11-A-666
EP-239-5	239-DRC-2	Ag Fuel Storage Bin ⁽¹⁾	11-A-665

K. Dry Sorbent Injection Silos

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-PP53	EU-PP53	Dry Sorbent Injection Silo #1	15-A-283
EP-PP54	EU-PP54	Dry Sorbent Injection Silo #2	15-A-284

L. Miscellaneous

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit
EP-185-3	EU-185-LIME-2	North Lime Bin	19-A-700
EP-185-4	EU-185-LIME-3	South Lime Bin	19-A-701

Equipment Listed as Insignificant Prior to PAL Permit Issuance – Power Plant Sources

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-PP34	Maintenance Welding
EU-PP35	Shot Blast
EU-PP36F-2	Antifreeze Tank No.2 (2,500 gallons)
EU-PP38F	Ash Loadout
EU-PP39	Diesel Generator #7 Fuel Oil Tank #1 (1,200 gallons)
EU-PP45	Central Vacuum System
EU-PP46	Brine Tank
EU-PP51	Boiler T1 and T2 Brine Tank
EU-185-AST-1	Water Plant Generator Fuel Tank (2,000 gal, #2 Diesel)
EU-F-185-LIME-2	Lime Loading (Pneumatic)
EU-239-AST-1	1500 kW Emergency Generator Fuel Tank (1250 gal)
EU-239-AST-2	1500 kW Emergency Generator Fuel Tank (3000 gal)
EU-239-BRN-1	Oakdale Brine Tank ⁽¹⁾
EU-239-WASH-1	Oakdale Parts Washer ⁽¹⁾
EU-PORT-AST-1	Portable Generator Fuel Tank (800 gallon, #2 Diesel)

⁽¹⁾ Located at the Oakdale Campus.

VI. Emission Point-Specific Conditions – Power Plant

Facility Name: University of Iowa
Permit Number: 00-TV-002R4

**Emission Point ID Number: EP-PP27 [Existing (Pre-December 19, 2002)
Emergency Generator, Compression Ignition,
>500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-PP27	Emergency Diesel Generator	Diesel Fuel	17.94 MMBtu/hr, 2,350 bhp, 1,750 kW	97-A-1035

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 97-A-1035
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 97-A-1035
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 97-A-1035
567 IAC 23.3(3)"b"

Operational Limits & Requirements

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

1. The fuel used by this source shall be limited to no. 2 diesel fuel.
2. Operation of this source shall not exceed 1500 hours per 12-month rolling period, rolled monthly.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- 1) Monthly hours of operation for this source.
- 2) Annual hours of operation shall be determined on a 12-month basis, rolled monthly, each month of operation.

Authority for Requirement: DNR Construction Permit 97-A-1035

NSPS and NESHAP Applicability

This engine is 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)(i) this emergency engine, located at major source, is an existing stationary RICE as it was constructed prior to December 19, 2002.

According to 63.6590(b)(3)(iii), an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A, including initial notification requirements.

Authority for Requirement: DNR Construction Permit 97-A-1035
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 120

Stack Opening, (inches, dia.): 16

Exhaust Flowrate (acfm): 15,337

Exhaust Temperature (°F): 994

Discharge Style: Vertical

Authority for Requirement: DNR Construction Permit 97-A-1035

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: EP-185-2 [Existing (Pre-December 19, 2002)
Emergency Generator, Compression Ignition,
>500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-185-GEN-1	Water Plant Generator	Diesel Fuel	11.50 MMBtu/hr, 1,850 bhp, 1,250 kW	99-A-448-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: 40% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 99-A-448-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 (PM₁₀)

Emission Limit: 1.61 lb/hr

Authority for Requirement: DNR Construction Permit 99-A-448-S2

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

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

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 99-A-448-S2
567 IAC 23.3(3)"b"

Pollutant: Nitrogen Dioxide (NO₂)

Emission Limit: 51.39 lb/hr

Authority for Requirement: DNR Construction Permit 99-A-448-S2

Operational Limits & Requirements

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

- 1) The facility is limited to using diesel oil #2 as the only fuel source for the emergency generator.

- 2) The facility is limited to having a maximum sulfur content in the diesel oil #2 of 0.05% as requested.
- 3) The emergency generator is limited to operating a maximum of 500 hours per rolling 12-month period.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- 1) Maintain records of the amount of sulfur content in the diesel oil #2.
- 2) The owner or operator shall record the number of hours of operation for each month, and calculate a rolling 12-month total.

Authority for Requirement: DNR Construction Permit 99-A-448-S2

NSPS and NESHAP Applicability

This engine is 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)(i) this emergency engine, located at major source, is an existing stationary RICE as it was constructed prior to December 19, 2002.

According to 63.6590(b)(3)(iii), an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is not subject to the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A, including initial notification requirements.

Authority for Requirement: DNR Construction Permit 99-A-448-S2
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 60

Stack Opening, (inches, dia.): 12

Exhaust Flowrate (acfm): 3,500

Exhaust Temperature (°F): 990

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 99-A-448-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: EP-PORTGEN-2 [Existing (Pre-June 12, 2006)
Emergency Generator, Compression Ignition,
< 500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-PORT-GEN-2	Portable Generator 2	Diesel Fuel	3.08 MMBtu/hr, 465 bhp, 300 kW	04-A-428-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: 40% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 04-A-428-S2
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 25% 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)

Emission Limit: 1.1 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 04-A-428-S2
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 04-A-428-S2
567 IAC 23.3(3)"b"

Operational Limits & Reporting/Recordkeeping 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 fuel shall be limited to #1 or #2 distillate fuel oil only.
- B. The maximum sulfur content of the diesel fuel shall not exceed 0.0015% by weight.
 - i. The owner or operator shall maintain records of the sulfur content of the fuel and type of fuel used in this generator (EU-PORT-GEN-2).
- C. The owner or operator shall record the following information for the generator (EU-PORT-GEN-2):
 - i. the date the engine was moved to the location.
 - ii. the location.

- D. The use of the generator shall not exceed 500 hours per 12-month rolling total.
- i. Record the monthly usage of the generator (in hours).
 - ii. Annual generator usage shall be determined on a 12-month rolling basis, for each month of operation.

Authority for Requirement: DNR Construction Permit 04-A-428-S2

NSPS and NESHAP Applicability

National Emission Standards for Hazardous Air Pollutants (NESHAP): This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE NESHAP) [40 CFR Part 63, Subpart ZZZZ]. However, at the present time, this engine does not meet the definition of a Stationary internal combustion engine from §63.6675 of the standard. This engine would be considered stationary only if it remained at one location for more than 12 consecutive months.

Authority for Requirement: DNR Construction Permit 04-A-428-S2
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (feet from the ground): 7.83

Stack Outlet Dimensions (inches): 5

Exhaust Flowrate (scfm): 1,000

Exhaust Temperature (°F): 900

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 04-A-428-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: EP-239-6 [New (Post-December 19, 2002)
Emergency Generator, Compression Ignition,
> 500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-239-GEN-2	Oakdale PP Emergency Generator	Diesel Fuel	14.36 MMBtu/hr, 2,206 bhp, 1,500 kW	09-A-481-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: 40% ⁽¹⁾⁽²⁾

Authority for Requirement: DNR Construction Permit 09-A-481-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 (PM₁₀)

Emission Limit: 0.92 lb/hr

Authority for Requirement: DNR Construction Permit 09-A-481-S2

Pollutant: Particulate Matter (PM)

Emission Limit: 0.92 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 09-A-481-S2
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 09-A-481-S2
567 IAC 23.3(3)"b"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 31.75 lb/hr ⁽²⁾

Authority for Requirement: DNR Construction Permit 09-A-481-S2

Pollutant: Carbon Monoxide (CO)

Emission Limit: 13.45 lb/hr ⁽²⁾

Authority for Requirement: DNR Construction Permit 09-A-481-S2

⁽²⁾ The source shall also meet the emission standards of 40 CFR 89.113 per 40 CFR 60.4205(b).

Operational Limits & Requirements

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

- A. Per 40 CFR§60.4211, for the Emergency Generator EU-239-GEN-2, the owner or operator must purchase an engine certified to the emissions standards in §60.4205(b) for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.
- B. The owner or operator of the Emergency Generator EU-239-GEN-2 must operate and maintain the generator according to the manufacture's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. In addition, the owner or operator may only change those settings that are permitted by the manufacturer.
- C. The owner or operator shall only operate the Emergency Generator EU-239-GEN-2 in emergency situations or for routine maintenance and testing, according to the requirements in 40 CFR§60.4211.
- D. The owner or operator shall not operate the Emergency Generator EU-239-GEN-2 more than 500 hours per rolling twelve-month period. In addition, the facility shall comply with the requirements of 40 CFR§60.4211(e).
- E. The Emergency Generator EU-239-GEN-2 shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.0015% by weight.
- F. Beginning October 1, 2010, diesel fuel fired in Emergency Generator EU-239-GEN-2 shall be limited to a maximum sulfur content of 15 ppm and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR 1090.305.
- G. Per 40 CFR§60.4207, owners and operators of pre-2011 model year diesel generators subject to NSPS Subpart IIII may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of 40 CFR§80.510(a) or CFR§80.510(b) beyond the dates required, for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

Authority for Requirement: DNR Construction Permits 09-A-481-S2

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator of Emergency Generator EU-239-GEN-2 shall install a non-resettable hour meter prior to startup of the engine per 40 CFR §60.4209.
- B. Per 40 CFR§60.4214, the owner or operator shall record the time of operation of the Emergency Generator EU-239-GEN-2 and the reason the engine was in operation during that time, including information to show compliance with the requirements of 40 CFR§60.4211(e).
- C. Each month, the owner or operator shall record the total hours of operation for Emergency Generator EU-239-GEN-2, and calculate and record rolling twelve-month totals.

- D. The owner or operator shall maintain records of the sulfur content of the fuel oil combusted in Emergency Generator EU-239-GEN-2.
- E. The owner or operator Emergency Generator EU-239-GEN-2 shall follow the notification, reporting, and recordkeeping requirements of 40 CFR §60.4214(b).

Authority for Requirement: DNR Construction Permits 09-A-481-S2
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

NSPS and NESHAP Applicability

A. This emission unit is subject to the New Source Performance Standards (NSPS) Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40 CFR §60.4200 through 40 CFR §60.4219) and to NSPS Subpart A – General Provisions (40 CFR §60.1 through 40 CFR §60.19). The engine is an emergency stationary internal combustion engine that is not a fire pump engine.

- i. In accordance with §60.4211(c), the engine must be certified by its manufacturer to comply with the emissions standards for emergency engines from §60.4205 (b) and §60.4202 (a)(2). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.20 grams/kW-hr	§ 89.112 Table 1
NMHC ¹ + NOx	6.4 grams/kW-hr	§ 89.112 Table 1
Carbon Monoxide (CO)	3.5 grams/kW-hr	§ 89.112 Table 1
Opacity – acceleration mode	20%	§ 89.113(a)(1)
Opacity – lugging mode	15%	§ 89.113(a)(2)
Opacity – peaks in acceleration or lugging modes	50%	§ 89.113(a)(3)

¹ Non-methane hydrocarbon

- ii. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).

B. This emission unit is also subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ – Stationary Reciprocating Internal Combustion

Engines (40 CFR §63.6580 through 40 CFR §63.6675) and to NESHAP Subpart A – General Provisions (40 CFR §63.1 through 40 CFR §63.15). This generator is considered an Emergency Stationary Reciprocating Internal Combustion Engine (RICE) as specified in 40 CFR §63.6675 and is only subject to the initial notification requirements of 40 CFR §63.6645(d).

Authority for Requirement: DNR Construction Permits 09-A-481-S2
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50

Stack Opening, (inches, dia.): 16

Exhaust Flowrate (scfm): 4,771

Exhaust Temperature (°F): 764

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 09-A-481-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: EP-PORTGEN-1 [New (Post-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-PORT-GEN-1	Portable Generator	Diesel Fuel	4.37 MMBtu/hr, 610 bhp, 400 kW	10-A-073-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 10-A-073-S1
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 10% 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 (PM₁₀)

Emission Limit: 0.26 lb/hr

Authority for Requirement: DNR Construction Permit 10-A-073-S1

Pollutant: Particulate Matter (PM)

Emission Limit: 0.26 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 10-A-073-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: DNR Construction Permit 10-A-073-S1
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 17.48 lb/hr

Authority for Requirement: DNR Construction Permit 10-A-073-S1

Operational Limits & Requirements

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

- A. Emergency Generator EU-PORT-GEN-1 shall not operate more than 500 hours per rolling twelve month period.
- B. The Emergency Generator EU-PORT-GEN-1 shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.0015% by weight.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. Each month, the owner or operator shall record the total hours of operation for Emergency Generator EU-PORT-GEN-1, and calculate and record rolling twelve-month totals.
- B. The owner or operator shall maintain records of the sulfur content of the fuel oil combusted in Emergency Generator EU-PORT-GEN-1.

Authority for Requirement: DNR Construction Permit 10-A-073-S1

NSPS and NESHAP Applicability

National Emission Standards for Hazardous Air Pollutants (NESHAP): This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE NESHAP) [40 CFR Part 63, Subpart ZZZZ]. However, at the present time, this engine does not meet the definition of a Stationary internal combustion engine from §63.6675 of the standard. This engine would be considered stationary only if it remained at one location for more than 12 consecutive months.

Authority for Requirement: DNR Construction Permit 10-A-073-S1
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 10.60

Stack Opening, (inches, dia.): 8

Exhaust Flowrate (acfm): 3,655

Exhaust Temperature (°F): 910

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 10-A-073-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.

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: EP-240-1 [New (Post-December 19, 2002)
Generators, Spark Ignition, >500 HP]**

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-240-GEN-1	Jenbacher Model JGS420 Gas-fired IC Engines	CE-240-1: CO Catalyst	Natural Gas	12.35 MMBtu/hr, 1,966 bhp, 1,400 kW (each)	09-A-395-S3
EU-240-GEN-2	Jenbacher Model JGS420 Gas-fired IC Engines				

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 09-A-395-S3
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of 10% 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 (PM₁₀)

Emission Limit(s): 1.0 lb/hr

Authority for Requirement: DNR Construction Permit 09-A-395-S3

Pollutant: Particulate Matter (PM)

Emission Limit(s): 1.0 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 09-A-395-S3
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit(s): 0.47 lb/hr, 500 ppmv

Authority for Requirement: DNR Construction Permit 09-A-395-S3
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 7.23 lb/hr
Authority for Requirement: DNR Construction Permit 09-A-395-S3

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 2.0 g/HP-hr
Authority for Requirement: DNR Construction Permit 09-A-395-S3
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Pollutant: Volatile Organic Compounds (VOC)
Emission limit: 11.41 lb/hr
Authority for Requirement: DNR Construction Permit 09-A-395-S3

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.0 g/HP-hr
Authority for Requirement: DNR Construction Permit 09-A-395-S3
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Pollutant: Carbon Monoxide (CO)
Emission Limit: 5.71
Authority for Requirement: DNR Construction Permit 09-A-395-S3

Pollutant: Carbon Monoxide (CO)
Emission Limit: 4.0 g/HP-hr, Reduce by 93%⁽²⁾
Authority for Requirement: DNR Construction Permit 09-A-395-S3
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Pollutant: Formaldehyde
Emission Limit: 14 ppmvd at 15% O₂ ⁽²⁾
Authority for Requirement: DNR Construction Permit 09-A-395-S3
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

⁽²⁾ 40 CFR Part 63, Subpart ZZZZ, Table 2a. When burning natural gas: 93% reduction in CO emissions or a formaldehyde concentration of less than or equal to 14 ppmvd at 15% O₂. This limit applies during all periods of operation.

Operational Limits & Reporting/Recordkeeping 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 owner or operator shall follow all applicable requirements in Subpart JJJJ, 40 CFR 60.4230 through 60.4248. The owner or operator shall follow the applicable notification, recordkeeping and monitoring requirements of 40 CFR 60.4245.
 - B. The owner or operator shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions.
 - C. The owner or operator shall follow all applicable requirements in Subpart ZZZZ, 40 CFR 63.6580 through 63.6675. The owner or operator shall follow the applicable notification, recordkeeping and monitoring requirements of 40 CFR 63.6625 through 63.6660.
 - D. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications, and follow the catalytic oxidizer requirements in Table 2b of Subpart ZZZZ. The owner or operator shall keep records of control equipment inspections and maintenance.
 - E. The engines shall combust only pipeline-quality natural gas.
- Authority for Requirement: DNR Construction Permit 09-A-395-S3
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (feet): 154

Stack Opening (inches): 39.25

Exhaust Flowrate (scfm): 4,850 (per engine)

Exhaust Temperature (°F): 800

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 09-A-395-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 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 For Both Engines

Pollutant – CO or Formaldehyde

Frequency:

For CO; as required in Subpart JJJJ or ZZZZ, Table 3 ^{1, 2, 3}

For Formaldehyde; as required in Subpart ZZZZ, Table 3 ^{1, 2, 3}

¹ Test required for each engine.

² Test required to meet the requirements of MACT Subpart ZZZZ. Either the CO test or the formaldehyde test may be used to demonstrate compliance with the standard.

³ The last stack test was conducted on 4/30/2024 (Formaldehyde at each engine).

Test Method – 40 CFR 60, Appendix A, Method 10 for CO

Test Method – 40 CFR 60, Appendix A, Method 320 or 323 for Formaldehyde

Authority for Requirement: DNR Construction Permit 09-A-395-S3

40 CFR Part 63 Subpart ZZZZ, Table 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 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)

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: See Table: New (Post-December 19, 2002)
Generators, Spark Ignition, > 500 HP**

Associated Equipment

Table: New (Post-December 19, 2002) Generators, Spark Ignition, > 500 HP

Emission Point	Emission Unit	Emission Unit Description	Rated Capacity	Control Equipment	Construction Permit
EP-PP52.1	EU-PP52.1	Natural Gas-Fired Generator 1	22.22 MMBtu/hr, 2,889 bhp, 2,055 kW (each)	CE-52.1: Oxidation Catalyst	12-A-508
EP-PP52.2	EU-PP52.2	Natural Gas-Fired Generator 2		CE-52.2: Oxidation Catalyst	12-A-509
EP-PP52.3	EU-PP52.3	Natural Gas-Fired Generator 3		CE-52.3: Oxidation Catalyst	12-A-510
EP-PP52.4	EU-PP52.4	Natural Gas-Fired Generator 4		CE-52.4: Oxidation Catalyst	12-A-511

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 Limits: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
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 (PM₁₀)

Emission Limits: 0.02 lb/MMBtu

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf, 0.02 lb/MMBtu

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 0.005 lb/MMBtu, 500 ppmv

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limits: 1.0 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limits: 0.75 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

Pollutant: Volatile Organic Carbons (VOC) ⁽²⁾

Emission Limits: 0.7 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

⁽²⁾ As noted in Table 1 of NSPS Subpart JJJ, emissions of formaldehyde are not included in this VOC emission limit.

Pollutant: Volatile Organic Carbons (VOC) including Formaldehyde

Emission Limits: 0.87 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

Pollutant: Carbon Monoxide (CO)

Emission Limits: 2.0 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Pollutant: Carbon Monoxide (CO)

Emission Limits: 1.0 g/HP-hr

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

Operational Limits & Requirements

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

- A. These generators (EU-PP52.1, EU-PP52.2, EU-PP52.3, and EU-PP52.4) are limited to using no more than 270.80 MMcf of natural gas per 12-month rolling period (total for all four generators).
- B. Any other operating limits not listed here but are part of 40 CFR Part 60 Subpart JJJJ shall also be maintained.

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The permittee shall maintain the following monthly records:
 - i. the total amount (MMcf) of natural gas burned in the affected generators; and,
 - ii. a determination of the 12-month rolling total amount (MMcf) of natural gas burned in the affected generators.
- B. The owner or operator of these generators shall follow the compliance requirements of 40 CFR§60.4243.
- C. The owner or operator of these generators shall follow the notification, reporting, and recordkeeping requirements of 40 CFR§60.4245.

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

NSPS and NESHAP Applicability

NESHAP:

These non-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)(2)(i), these non-emergency engines, located at a major source, are new stationary RICE as they were constructed after December 19, 2002.

Compliance Date:

According to 40 CFR 63.6595(a)(3), you must comply with the applicable provisions of Subpart ZZZZ upon startup of your new engine.

Emission Standards:

According to 40 CFR 63.6600(b) and Table 2a to subpart ZZZZ, you must comply with the following emission standards:

1. Reduce CO emissions by 93 percent or more, or
2. Limit concentration of formaldehyde to 14 ppmvd or less at 15 percent O₂.

Operating Limitations:

According to 40 CFR 63.6600(b) and Table 2b to subpart ZZZZ, you must comply with the following operating limitations:

1. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and
2. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1,350 °F (You may petition the Administrator for a different temperature range.)

Testing and Compliance Requirements:

1. According to 40 CFR 63.6610(a), you must conduct the initial performance tests or other applicable initial compliance demonstrations in Table 4 to subpart ZZZZ within 180 days after the compliance date. See the exemption in 40 CFR 63.6610(d).
2. According to 40 CFR 63.6615 and Table 3 to subpart ZZZZ, you must conduct the subsequent performance tests semiannually if you are complying with the requirement to reduce CO emissions and not using a CEMS or to limit the concentration of formaldehyde. (Note: After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.)
3. You must conduct the performance tests in accordance with 40 CFR 63.6620 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 60 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing.
4. According to 40 CFR 63.6625(a) and Table 5 to subpart ZZZZ, if you elect to install a CEMS to monitor CO emissions reductions, you must install, operate, and maintain the CEMS according to the requirements in 40 CFR 63.6625(a)(1) through (4).
5. According to 40 CFR 63.6625(b) and Table 5 to subpart ZZZZ, if you are required to install a continuous parameter monitoring system (CPMS), you must install, operate, and maintain each CPMS according to the requirements in 40 CFR 63.6625(b)(1) through (6).
6. According to 40 CFR 63.6625(h), you must 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, after which time the non-startup emission standards apply.

7. You must demonstrate initial compliance with applicable emission limitations, operating limitations, and other requirements in pursuant to 40 CFR 63.6630(a), (b), and (d).
8. You must demonstrate continuous compliance with applicable emission limitations, operating limitations, and other requirements in pursuant to 40 CFR 63.6605, 6635, 6640(a), (b), (d), and (e).

Notification, Reporting, and Recordkeeping Requirements

1. You must comply with the applicable notification requirements in pursuant to 40 CFR 63.6645(a), (b), (c), (g), and (h).
2. You must comply with the applicable reporting requirements in pursuant to 40 CFR 63.6650(a) to (f).
3. You must comply with the applicable recordkeeping requirements in pursuant to 40 CFR 63.6655(a), (b), and (d), and 40 CFR 63.6660, including keeping records for at least 5 years.

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511
 40 CFR 63 Subpart ZZZZ
 567 IAC 23.1(4)"cz"

Emission Point Characteristics

These emission points shall conform to the conditions listed below.

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (acfm)	Exhaust Temp. (°F)	Discharge Style
EP-PP52.1	EU-PP52.1	67.83	23.5	17,348	893	Vertical Unobstructed
EP-PP52.2	EU-PP52.2	67.83	23.5	17,348	893	Vertical Unobstructed
EP-PP52.3	EU-PP52.3	67.83	23.5	17,348	893	Vertical Unobstructed
EP-PP52.4	EU-PP52.4	67.83	23.5	17,348	893	Vertical Unobstructed

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

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 – Nitrogen Oxides (NO_x)

Stack Test to be Completed – Every 8760 hours or 3 years, whichever comes first

Test Method – 40 CFR 60, Appendix A, Method 7E

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

40 CFR 63 Subpart ZZZZ

567 IAC 23.1(4)"cz"

Pollutant – Volatile Organic Compounds (VOC)

Stack Test to be Completed – Every 8760 hours or 3 years, whichever comes first

Test Method – 40 CFR 60, Appendix A, Method 25A

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, and 12-A-511

40 CFR 63 Subpart ZZZZ

567 IAC 23.1(4)"cz"

Pollutant – Carbon Monoxide (CO)

Stack Test to be Completed – Every 8760 hours or 3 years, whichever comes first

Test Method – 40 CFR 60, Appendix A, Method 10

Authority for Requirements: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

40 CFR 63 Subpart ZZZZ

567 IAC 23.1(4)"cz"

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)

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 Requirements: 567 IAC 24.108(3)

Emission Point ID Number: EP-308-1 [New (Post-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP]

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity
EU-308-GEN-1	WCCWP Generator	Diesel Fuel	0.38 MMBtu/hr, 148 bhp, 110 kW

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: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

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

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 2.5 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(3)"b"(2)

Operational Limits & Requirements

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

1. 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 and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

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 Applicability

The emergency engine is 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)(2)(ii) this compression ignition emergency engine, located at a major source, is a new stationary RICE as it was constructed on or after June 12, 2006.

According to 40 CFR 63.6590(c)(6), this emergency engine must meet the requirements of subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII for compression ignition engines. No further requirements apply for this emergency engine under subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

NSPS:

Emission Standards:

According to 40 CFR 60.4205(b) and 4202, you must comply with the following emission standards in grams/kW-hr (grams/HP-hr):

Engine Displacement (l/cyl)	Maximum Engine Power	Model Year(s)	NMHC + NO _x	CO	PM	Opacity	Rule Ref
Disp. < 10	$75 \leq \text{kW} < 130$ ($100 \leq \text{HP} < 175$)	2007+	4.0 (3.0)	5.0 (3.7)	0.30 (0.22)	(1)	(2)

(1) Exhaust opacity must not exceed: 20 percent during the acceleration mode; 15 percent during the lugging mode; and 50 percent during the peaks in either the acceleration or lugging modes.

(2) 40 CFR 89.112 and 40 CFR 89.113.

Fuel Requirements:

You must use diesel fuel that has 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 60.4207 and 40 CFR 1090.305.

Compliance Requirements:

1. You must operate and maintain the engine to comply with the required emission standards over the entire life of the engine (40 CFR 60.4206) by doing all of the following (40 CFR 60.4211(a)).
 - a) Operating and maintaining the engine and control device according to the manufacturer's emission-related written instructions;
 - b) Changing only those emission-related settings that are permitted by the manufacturer; and
 - c) Meeting the requirements of 40 CFR 89, 94 and/or 1068, as they apply to you.
2. You must demonstrate compliance with the applicable emission standards by purchasing an engine certified to the applicable emission standards. The engine must be installed and

configured according to the manufacturer's emission-related specifications. 40 CFR 60.4211(c).

3. If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct the following performance testing in accordance with 40 CFR 60.4212 to demonstrate compliance with applicable emission standards. You are required to notify the DNR 30 days prior to the test date and are required to submit a stack test report to the DNR within 60 days after the completion of the testing. See 40 CFR 60.4211(g) for additional information.

Maximum Engine Power	Initial Test	Subsequent Test
100 ≤ HP ≤ 500	Within 1 year of engine startup, or non-permitted action ⁽¹⁾	Not required

⁽¹⁾ Non-permitted action means that you do not install, configure, operate, and maintain the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer.

Operating and Recordkeeping Requirements

1. If your emergency engine does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 40.4209(a)).
2. There is no time limit on the use of the emergency engine in emergency situations. 40 CFR 60.4211(f)(1).
3. The engine may be operated for the purpose of maintenance checks and readiness testing for a maximum of 100 hours/year. See 40 CFR 60.4211(f)(2) for more information.
4. The engine may be operated for up to 50 hours per year for non-emergency purposes. This operating time cannot be used for peak shaving or to generate income for the facility (e.g. supplying power to the grid) and should be included in the total of 100 hours allowed for maintenance checks and readiness testing. See 40 CFR 60.4211(f)(3) for more information.

Authority for Requirement: 40 CFR Part 60 Subpart IIII
567 IAC 23.1(2)"yyy"

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: EP-240-2

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-240-CT-1	Cooling Tower 1 (1 Cell)	CE-240-2: Drift Eliminator	Cooling Water with Additives	1,800 gal/min	09-A-396-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: 40% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 09-A-396-S2
567 IAC 23.3(2)"d"

⁽¹⁾ An exceedance of the indicator opacity of "no visible emissions (No VE)" 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 (PM₁₀)

Emission Limit: 0.15 lb/hr

Authority for Requirement: DNR Construction Permit 09-A-396-S2

Pollutant: Particulate Matter (PM)

Emission Limit: 0.15 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 09-A-396-S2
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. The total dissolved solids (TDS) of the water used shall not exceed 3,400 ppm (monthly average).
- B. The Drift Eliminator (CE CE-240-2) shall be designed to meet a control efficiency of 0.005% (gallons of drift per gallon of cooling water flow) or better.
- C. Chromium based, VOC containing, and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in this emission unit.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. An analysis of the TDS of the water used for each calendar month this emission unit is in use and the monthly average TDS of the water.
- B. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in this emission unit.

Authority for Requirement: DNR Construction Permit 09-A-396-S2

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height (feet): 56

Stack Opening (inches): 132

Exhaust Flowrate (scfm): 191,000

Exhaust Temperature (°F): 95

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 09-A-396-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: EP-240-3, EP-026-2, EP-026-3

Associated Equipment

Table: Oakdale Campus Cooling Towers

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity
EP-240-3	EU-240-CT-2	Cooling Tower 2	CE-240-3: Mist Eliminator	Cooling Water with Additives	2,100 gal/min
EP-026-2	EU-026-CT-1	UHL Cooling Tower 1	CE-026-2: Mist Eliminator		1,800 gal/min
EP-026-3	EU-026-CT-2	UHL Cooling Tower 2	CE-026-3: Mist Eliminator		1,800 gal/min

Applicable Requirements

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

The emissions from these emission points shall not exceed the levels specified below.

Table: Oakdale Campus Cooling Towers – Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (gr/dscf) 567 IAC 23.3(2)"a"	PM Limit (lb/hr)	PM ₁₀ Limit (lb/hr)	Authority for Requirements
EP-240-3	EU-240-CT-2	40% ⁽¹⁾	0.1	0.18	0.18	15-A-168-S1
EP-026-2	EU-026-CT-1	40% ⁽¹⁾	0.1	0.16	0.16	15-A-169
EP-026-3	EU-026-CT-2	40% ⁽¹⁾	0.1	0.16	0.16	15-A-170

⁽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).

Operational Limits & Requirements

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

- The total dissolved solids (TDS) of the water used in these emission units (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2) shall not exceed 3,500 ppm by weight for any single sampling event.
- These emission units (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2) shall be maintained according to the manufacturer specifications and maintenance schedule.
- Chromium based, VOC containing, and HAP containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in these emission units (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2).

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. An analysis of the TDS (in ppm by weight) of the water used in each calendar month these emission units (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2) are in use.
- B. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of these emission (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2).
- C. A copy of the Material Safety Data Sheet (MSDS) for each water treatment chemical used in these emission units (EU-240-CT-2, EU-026-CT-1, and EU-026-CT-2).

Authority for Requirements: DNR Construction Permits 15-A-168-S1, 15-A-169 and 15-A-170

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

		Stack Characteristics				
Emission Point	Emission Unit	Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-240-3	EU-240-CT-2	56	132	199,410	90	Vertical Unobstructed
EP-026-2	EU-026-CT-1	49.667	135.75	146,096	91	Vertical Unobstructed
EP-026-3	EU-026-CT-2	49.667	135.75	146,096	91	Vertical Unobstructed

Authority for Requirements: DNR Construction Permits 15-A-168-S1, 15-A-169 and 15-A-170

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: EP-240-4

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-240-CT-3	Cooling Tower 3	CE-240-4: Mist Eliminator	Cooling Water	2,100 gal/min	25-A-059

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-059
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: Particulate Matter (PM_{2.5})

Emission Limit(s): 0.02 lb/hr

Authority for Requirement: DNR Construction Permit 25-A-059

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 0.02 lb/hr

Authority for Requirement: DNR Construction Permit 25-A-059

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.02 lb/hr 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 25-A-059
567 IAC 23.3(2)"a"(1)

Operational Limits & Reporting/Recordkeeping 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 Total Dissolved Solids (TDS) concentration in the cooling tower water shall not exceed 3,500 parts per million by weight (3,500 mg/L) for any single sampling event. The owner or operator shall conduct TDS testing on a monthly basis. The owner or operator shall maintain records of the monthly TDS sampling/testing results. The records shall include the testing dates and the methods used to determine the concentration of TDS in the circulating water.

- B. The mist eliminator (CE-240-4) shall be designed to meet a control efficiency of 0.005% (gallons of drift per gallon of cooling water flow) or better. The cooling tower (EU-240-CT-3) and mist eliminator (CE-240-4) shall be operated and maintained according to the manufacturer's specification with inspections occurring at a minimum of once per calendar year. A log of all maintenance and inspection activities performed on the cooling tower (EU-240-CT-3) and mist eliminator (CE-240-4). This log shall include, but is not limited to:
- a. The date and time any inspection and/or maintenance was performed on the emission unit and/or control equipment;
 - b. Any issue(s) identified during the inspection and the date each issue(s) was resolved;
 - c. Any issue(s) addressed during the maintenance activities and the date each issue(s) was resolved; and,
 - d. Identification of the staff member performing the inspection or maintenance activity.
- C. The owner or operator shall not use any chromium-based water treatment chemicals in this cooling tower (EU-240-CT-3). The owner or operator shall not use any biocides or additives that contain VOC or HAP in this cooling tower (EU-240-CT-3). The owner or operator shall maintain Safety Data Sheets (SDS) for each water treatment chemical used in this cooling tower (EU-240-CT-3).

Authority for Requirement: DNR Construction Permit 25-A-059

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 56

Stack Opening, (inches, dia.): 132

Exhaust Flow Rate (scfm): 200,280

Exhaust Temperature (°F): 95

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 25-A-059

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: EP-422-1

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-422-CT-1	Chilled Water Plant 4 Cooling Tower	CE-422-1: Mist Eliminator	Cooling Water	Four Cells; 30,000 gal/min total	25-A-091

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-091
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: Particulate Matter (PM_{2.5})

Emission Limit(s): 0.26 lb/hr

Authority for Requirement: DNR Construction Permit 25-A-091

Pollutant: Particulate Matter (PM₁₀)

Emission Limit(s): 0.26 lb/hr

Authority for Requirement: DNR Construction Permit 25-A-091

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.26 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 25-A-091
567 IAC 23.3(2)"a"(1)

Operational Limits & Reporting/Recordkeeping 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 Total Dissolved Solids (TDS) concentration in the cooling tower water shall not exceed 3,500 parts per million by weight (3,500 mg/L) for any single sampling event. The owner or operator shall conduct TDS testing on a monthly basis. The owner or operator shall maintain records of the monthly TDS sampling/testing results. The records shall include the testing dates and the methods used to determine the concentration of

TDS in the circulating water.

- B. The mist eliminator (CE-422-1) shall be designed to meet a control efficiency of 0.005% (gallons of drift per gallon of cooling water flow) or better. The cooling tower (EU-422-CT-1) and mist eliminator (CE-422-1) shall be operated and maintained according to the manufacturer's specification with inspections occurring at a minimum of once per calendar year. A log of all maintenance and inspection activities performed on the cooling tower (EU-422-CT-1) and mist eliminator (CE-422-1). This log shall include, but is not limited to:
- a. The date and time any inspection and/or maintenance was performed on the emission unit and/or control equipment;
 - b. Any issue(s) identified during the inspection and the date each issue(s) was resolved;
 - c. Any issue(s) addressed during the maintenance activities and the date each issue(s) was resolved; and,
 - d. Identification of the staff member performing the inspection or maintenance activity.
- C. The owner or operator shall not use any chromium-based water treatment chemicals in this cooling tower (EU-422-CT-1). The owner or operator shall not use any biocides or additives that contain VOC or HAP in this cooling tower (EU-422-CT-1). The owner or operator shall maintain Safety Data Sheets (SDS) for each water treatment chemical used in this cooling tower (EU-422-CT-1).

Authority for Requirement: DNR Construction Permit 25-A-091

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 32.17

Stack Opening, (inches, dia.): 266

Exhaust Flow Rate (scfm): 2,716,000 (Total of 4 Cells)

Exhaust Temperature (°F): 85

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 25-A-091

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: See Table: Cooling Towers

Associated Equipment

Table: Cooling Towers

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP-308-2	EU-308-CT-1	WCCWP Cooling Tower 1	CE-308-1: Mist Eliminator	Cooling Water with Additives	912,000 gal/hr	07-A-497
EP-308-3	EU-308-CT-2	WCCWP Cooling Tower 2	CE-308-2: Mist Eliminator	Cooling Water with Additives	912,000 gal/hr	07-A-498

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 Limits: 40%

Authority for Requirements: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM₁₀)

Emission Limits: 0.33 tons/yr

Authority for Requirements: DNR Construction Permits 07-A-497 and 07-A-498

Pollutant: Particulate Matter (PM)

Emission Limits: 0.33 tons/yr, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 07-A-497 and 07-A-498
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

1. The average Total Dissolved Solids (TDS) concentration in the cooling water shall not exceed 2,000 ppm for any month.
2. The amount of any additive used shall not exceed 2,000 gallons (per tower) per twelve-month rolling period. The VOC content of the additive shall not exceed 1.7 lbs/gallon. (NOTE: The additive usage limit applies to VOC laden additives. If there are no VOCs in an additive then it does not apply against the usage limit).

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall measure the electrical conductivity of the cooling water to determine the Total Dissolved Solids (TDS) on a continuous basis. The owner or operator is required to take (1) water sample per month over a six month period to determine the relationship between the TDS and electrical conductivity. The determined TDS/conductivity relationship and the measured electrical conductivity value shall be used to determine compliance with allowable TDS concentration. (NOTE: for any malfunctions that may occur to the TDS monitoring system, the owner/operator may take daily grab samples. The TDS monitoring system is required to be operational at least 95% of the time. If the TDS monitoring system experiences downtime for more than 5% of the time a backup TDS monitoring system is required to be installed.)
 2. The owner or operator shall maintain a record of the amount of additive used (in gallons) per twelve-month rolling period.
 3. The owner or operator shall maintain the MSDS for any additives used in the cooling tower.
- Authority for Requirements: DNR Construction Permits 07-A-497 and 07-A-498

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (acfm)	Exhaust Temp. (°F)	Discharge Style
EP-308-2	EU-308-CT-1	85.5	338	839,185 (per cell)	100	Vertical
EP-308-3	EU-308-CT-2	85.5	338	839,185 (per cell)	100	Vertical

Authority for Requirements: DNR Construction Permits 07-A-497 and 07-A-498

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: EP-308-4

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-308-CT-3	WCCWP Cooling Tower 3	CE-308-3: Mist Eliminator	Cooling Water with Additives	360,000 gal/hr	17-A-629

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: 567 IAC 23.3(2)"d"

DNR Construction Permit 17-A-629

⁽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: Particulate Matter (PM)

Emission Limit: 0.1 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 17-A-629

567 IAC 23.3(2)"a"

Operational Limits & Reporting/Recordkeeping 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 average total dissolved solids (TDS) content of the cooling water used in this emission unit (EU-308-CT-3) shall not exceed 2,000 ppm per calendar month.
- B. The owner or operator shall keep records of the analysis of the TDS of the water used in each calendar month that this emission unit (EU-308-CT-3) is in use.
- C. Chromium-based or HAP-containing water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) shall not be used in this emission unit (EU-308-CT-3).
- D. A maximum of 2,000 gallons per twelve month rolling period of water treatment chemicals (i.e. biocides, fungicides, scale inhibitors, etc.) which contain VOC may be used. Purchase records may be used to record usage if it is assumed that a full delivery is used within the month it is received.
- E. The owner or operator shall keep monthly records of the amount of any VOC-containing water treatment chemicals used in this emission unit (EU-308-CT-3), and update the twelve month rolling total monthly.

F. The owner or operator shall keep a copy of the Safety Data Sheet (SDS) for each water treatment chemical used in this emission unit (EU-308-CT-3).

Authority for Requirement: DNR Construction Permit 17-A-629

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 84.4

Stack Opening, (inches, dia.): 338

Exhaust Flow Rate (scfm): 839,185

Exhaust Temperature (°F): 100

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 17-A-629

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: EP-239-1

Associated Equipment

Table: Oakdale Campus Boilers

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity (MMBtu/hr)
EP-239-1	EU-OD#2	Oakdale Boiler #2	N/A	Natural Gas	32.1
	EU-OD#3	Oakdale Boiler #3	N/A	Natural Gas	32.1
	EU-OD#4	Oakdale Boiler #4	N/A	Natural Gas	20.3
	EU-239-BLR-5	Hurst Boiler	CE-239-1: Ultra Temp Hot Gas Filtration (SCR, filter)	See Operational Limits and Requirements Section below for full list of allowable raw material	27.5
	EU-239-GSFR-1	AgBiopower Gasifier (thru Hurst)			2.5

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.

Emission Limit for All Sources

Pollutant: Opacity

Emission Limit: 40% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 78-A-023-S10
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).

Emission Limits for Natural Gas Boilers #2, # 3 and # 4 (Combined)

Pollutant: Particulate Matter (PM₁₀)

Emission Limit: 0.76 lb/hr

Authority for Requirement: DNR Construction Permit 78-A-023-S10

Pollutant: Particulate Matter (PM)

Emission Limit: 0.76 lb/hr

Authority for Requirement: DNR Construction Permit 78-A-023-S10

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppmv

Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 10.0 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S10

Emission Limits for Hurst Boiler Only

Pollutant: Particulate Matter (PM₁₀)
Emission Limit: 1.073 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S10

Pollutant: Particulate Matter (PM)
Emission Limit: 1.073 lb/hr, 0.6 lb/MMBtu
Authority for Requirement: DNR Construction Permit 78-A-023-S10
567 IAC 23.3(2)"b"(3)

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit: 500 ppmv (when using natural gas), 6 lb/MMBtu (when using solid fuel)
Authority for Requirement: 567 IAC 23.3(3)"e"
567 IAC 23.3(3)"a"(3)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 4.13 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S10

Pollutant: Carbon Monoxide (CO)
Emission Limit: 4.13 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S10

Pollutant: Hydrogen Chloride (HCl)
Emission Limit: 2.0 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S10

Operational Limits & Reporting/Recordkeeping 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 main fuels for these emission units (EUs OD#2, OD#3, OD#4, and 239-BLR-5) is natural gas. In addition, the Hurst boiler and gasifier (EUs 239-BLR-5 and 239-GSFR-1) shall be allowed to fire on the following approved alternative fuels:
- *Biomass.* The following materials under this category are approved without further review:
 - a. Oat hulls
 - b. Wood chips (poplar, or untreated and unpainted wood chips)
 - c. Wood pellets
 - d. Corn cobs
 - e. Corn seed

- f. Soybean seeds
- *Recycled paper sludge*
- *Cardboard*
- *Fuel Pellets*. The following materials under this category are approved without further review:
 - Sustainable Energy Pellets limited to containing the following materials: recycled (primary) paper sludge, paper products, non-polyvinyl chloride (PVC) plastics, agricultural residual streams, and biomass (i.e. wood, grass, etc.) from the following approved suppliers (NOTE: the name of the company listed is the name at the time of permit issuance.):
 - ❖ Convergen Energy

The owner or operator shall keep the following records for each shipment (unless otherwise noted) of the fuel received:

- (1) Documentation from the supplier showing the type of fuel received. For fuels that have multiple types (i.e. biomass) the type of that fuel shall also be documented (i.e. oat hulls, corn cobs, etc.).
 - (2) A copy of the most recent ultimate and proximate analysis for Sustainable Energy Pellets (not required for each shipment).
 - (3) The heat content (in BTU/lb) of each solid fuel. The owner or operator shall either
 - (a) Obtain documentation from the supplier of the fuel showing the heat content of the fuel in BTU/lb; or
 - (b) Take samples and analyze each shipment of solid fuel to determine the heat content of that fuel in BTU/lb. If sampling will be performed on-site, each sample shall be obtained using the procedures outlined in ASTM D2234-76. If multiple shipments of a fuel are received during a calendar week, the sampling shall be representative of all shipments received during that calendar week.
- B. In addition, the gasifier (EU 239-GSFR-1) shall be allowed to use the following approved alternative fuels:
- *Car fluff*
 - *Car arm rest materials*
 - *Corn Stalks/Stover*
 - *Creosote wood chips*
 - a. The amount of creosote wood chips added to the gasifier shall not exceed 80 pounds per hour on a daily average basis.
 - b. Record the amount of creosote wood chips added to the gasifier each day.
 - c. Record the number of hours the gasifier is operated each day.
 - d. Calculate the average amount of creosote wood chips added to the gasifier in pounds per day on a daily average basis.
 - e. The amount of creosote wood chips added to the gasifier shall not exceed 60,000 pounds (30 tons) per 12-month rolling period.
 - f. Record the amount of creosote wood chips added to the gasifier each month. Calculate and record the monthly and 12-month rolling totals.
- C. In addition, the Hurst Boiler (EU 239-BLR-5) shall be allowed to use the following approved alternative fuels:
- *Syngas from the gasifier (EU 239-GSFR-1)*
 - *Landfill gas*

- D. Prior to the use of any alternative fuels that fall under the categories listed in Permit Condition A, B, or C, unless otherwise specified in those conditions, the owner or operator shall supply material data to the Department for review and approval. This data shall include, but is not limited to:
- A description of the alternative fuel,
 - A complete chemical analysis of the fuel,
 - An estimated amount of the alternative fuel to be combusted, and
 - An evaluation of the impact on air emissions.
- E. No material defined as a hazardous waste in 40 CFR §261.3 shall be combusted in these emission units.
- F. The maximum heat input for OD#2 is 32.1 MMBtu/hr. The maximum heat input for OD#3 is 32.1 MMBtu/hr. The maximum heat input for OD#4 is 20.3 MMBtu/hr. The maximum heat input for the Hurst boiler is 27.5136 MMBtu/hr.
- G. The gasifier (EU-239-GSFR-1) shall exhaust through the Hurst Boiler, and shall be operated only when the Hurst Boiler is also in operation.
- H. The owner or operator shall record the amount of each fuel combusted in the Hurst boiler on each operating day. If syngas from the gasifier is combusted, the owner or operator shall also note the amounts and type of feedstock used in the gasifier.
- I. The owner or operator shall keep a maintenance plan and records of conducted inspections and maintenance for the boilers and any associated control equipment, and must, to the extent practicable, maintain and operate the boilers in a manner consistent with good air pollution control practice for minimizing emissions.
- J. The owner or operator shall monitor and record the pressure drop across the control equipment (CE 239-1) on a weekly basis. This requirement shall not apply during periods the Gas/Biomass Hurst Boiler and AgBiopower Gasifier are not operating on solid fuels.
- K. The owner or operator shall monitor and record the reagent injection rates for the control equipment (CE 239-1) on a weekly basis. This requirement shall not apply during periods the Gas/Biomass Hurst Boiler and AgBiopower Gasifier are not operating on solid fuels.
- L. The owner or operator shall notify the DNR as required in 40 CFR 60.48c(a) for the Hurst Boiler.
- M. The owner or operator shall keep records demonstrating the sulfur percentage of each solid fuel combusted in the Hurst boiler on an as-fired basis.

Authority for Requirement: DNR Construction Permit 78-A-023-S10

NSPS & NESHAP Applicability

The Hurst Boiler (EU-239-BLR-5) is subject to the requirements of Subparts A (*General Provisions*; 40 CFR §60.1 – 40 CFR §60.19) and 40 CFR Part 60, Subpart Dc (Standards of Performance for *Small Industrial-Commercial-Institutional Steam Generating Units*; 40 CFR §60.40c – §60.48c).

Authority for Requirement: DNR Construction Permit 78-A-023-S10
40 CFR Part 60 Subpart Dc
567 IAC 23.1(2)"III"

The four boilers are subject to the requirements of Subparts A (*General Provisions*; 40 CFR §63.1 – 40 CFR §63.15) and 40 CFR Part 63, Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants: *Industrial, Commercial and Institutional boilers and process heaters*; 40 CFR §63.7480 – 40 CFR §63.7575)

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): 90

Stack Opening (inches): 60

Exhaust Flowrate: 34,700 scfm for OD Boilers #2, #3 and #4
19,725 acfm for Hurst Boiler

Exhaust Temperature (°F): 460

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 78-A-023-S10

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: EP-PP03

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP03	Boiler #7	CE-PP03: Low NOx Burner	Natural Gas	218.0 MMBtu/hr	91-A-064

Continuous Emissions Monitors ID Numbers: ME-08a (NO_x) and ME-08b (CO₂)

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: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.2 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(2)"b"(3)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppmv

Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 0.10 lb/MMBtu

Authority for Requirement: DNR Construction Permit 91-A-064
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 21.8 lb/hr ⁽¹⁾

Authority for Requirement: DNR Construction Permit 91-A-064

⁽¹⁾ Based upon a steaming rate of 150,000 lb/hr and a heat input of 218 MMBtu/hr.

Operational Limits & Requirements

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

Natural gas shall be the only acceptable fuel for use in this unit.

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988
DNR Construction Permit 91-A-064

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

The owner/operator shall, on a daily basis, record the type(s) of fuel burned in this boiler and if other than natural gas is burned in this boiler in violation of this condition, the owner/operator shall also record the amount, sulfur content, and heating value of said other fuel type(s). This condition is only applicable when Boiler 11 is in operation.

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Db (Standards of Performance for *Industrial-Commercial-Institutional Steam Generating Units*; 40 CFR Part 60.40b – 40 CFR Part 60.49b) of the New Source Performance Standards (NSPS).

Authority for Requirement: 40 CFR Part 60, Subpart Db
567 IAC 23.1(2)"ccc"

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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

Monitoring Requirements

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

Continuous Emissions Monitoring:

Pollutant – Nitrogen Oxides (NO_x)

Operational Specifications – 40 CFR Part 60 Subpart Db

Initial System Calibration/Quality Assurance – April 10, 1997

Ongoing System Calibration/Quality Assurance – 40 CFR Part 60 Subpart Db

Reporting & Recordkeeping – 40 CFR Part 60. Submit all reports and petitions required by 40 CFR 60 to the DNR in order to demonstrate compliance with the NO_x emission limits.

Authority for Requirement: DNR Construction Permit 91-A-064
40 CFR 60 Subpart A and Subpart Db
567 IAC 23.1(2)"ccc"

Other Parameters

Pollutant – Carbon Dioxide (CO₂)

Operational Specifications – 40 CFR Part 60 Subpart Db

Initial System Calibration/Quality Assurance – April 10, 1997

Ongoing System Calibration/Quality Assurance – 40 CFR Part 60 Subpart Db

Reporting & Recordkeeping – 40 CFR Part 60. Submit all reports and petitions required by 40 CFR 60 to the DNR in order to demonstrate compliance with continuous emission monitoring.

Authority for Requirement: 40 CFR Part 60 Subpart A and Subpart Db
567 IAC 23.1(2)"ccc"

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)

Emission Point ID Number: EP-PP04

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP04	Boiler #8	CE-PP04: Low NOx Burner	Natural Gas	218.0 MMBtu/hr	91-A-063

Continuous Emissions Monitors ID Numbers: ME-09a (NO_x) and ME-09b (CO₂)

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: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.2 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(2)"b"(3)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppmv

Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 0.10 lb/MMBtu

Authority for Requirement: DNR Construction Permit 91-A-063
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 21.8 lb/hr ⁽¹⁾

Authority for Requirement: DNR Construction Permit 91-A-063

⁽¹⁾ Based upon a steaming rate of 150,000 lb/hr and a heat input of 218 MMBtu/hr.

Operational Limits & Requirements

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

Natural gas shall be the only acceptable fuel for use in this unit.

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988
DNR Construction Permit 91-A-063

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

The owner/operator shall, on a daily basis, record the type(s) of fuel burned in this boiler and if other than natural gas is burned in this boiler in violation of this condition, the owner/operator shall also record the amount, sulfur content, and heating value of said other fuel type(s). This condition is only applicable when Boiler 11 is in operation.

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Db (Standards of Performance for *Industrial-Commercial-Institutional Steam Generating Units*; 40 CFR Part 60.40b – 40 CFR Part 60.49b) of the New Source Performance Standards (NSPS).

Authority for Requirement: 40 CFR Part 60, Subpart Db
567 IAC 23.1(2)"ccc"

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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

Monitoring Requirements

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

Continuous Emissions Monitoring:

Pollutant – Nitrogen Oxides (NO_x)

Operational Specifications – 40 CFR Part 60 Subpart Db

Initial System Calibration/Quality Assurance – April 10, 1997

Ongoing System Calibration/Quality Assurance – 40 CFR Part 60 Subpart Db

Reporting & Recordkeeping – 40 CFR Part 60. Submit all reports and petitions required by 40 CFR 60 to the DNR in order to demonstrate compliance with the NO_x emission limits.

Authority for Requirement: DNR Construction Permit 91-A-063
40 CFR 60 Subpart A and Subpart Db
567 IAC 23.1(2)"ccc"

Other Parameters

Pollutant – Carbon Dioxide (CO₂)

Operational Specifications – 40 CFR Part 60 Subpart Db

Initial System Calibration/Quality Assurance – April 10, 1997

Ongoing System Calibration/Quality Assurance – 40 CFR Part 60 Subpart Db

Reporting & Recordkeeping – 40 CFR Part 60. Submit all reports and petitions required by 40 CFR 60 to the DNR in order to demonstrate compliance with continuous emission monitoring.

Authority for Requirement: 40 CFR Part 60 Subpart A and Subpart Db
567 IAC 23.1(2)"ccc"

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)

Emission Point ID Number: EP-PP06

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Continuous Emissions Monitors	Rated Capacity
EU-PP06	Boiler #10	CE-PP06A: Low NO _x Burners & Flue Gas Recirculation (when firing on natural gas)	None	247 MMBtu/hr with coal, 218 MMBtu/hr on natural gas
		CE-PP27: Multiclone Dust Collector	None	
		CE-PP06B: Baghouse	ME-06-CO ₂ ME-06-SO ₂ ME-06-Opacity ME-06-NO _x ME-06-CO ME-06-O ₂ ME-06-H ₂ O ME-06-Flow	
		CE-PP06C: Dry Sorbent Injection	None	

Raw Material/Fuel: Coal, Tire Derived Fuel, Natural Gas, Biomass, Recycled Paper Sludge, Fuel Pellets ⁽¹⁾

⁽¹⁾ See Operational Limits & Reporting and Recordkeeping Requirements section for full list of allowed raw materials.

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 75-A-282-S8
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: 15.27 lb/hr; 0.074 lb/MMBtu

Authority for Requirement: DNR Construction Permit 75-A-282-S8

Pollutant: Particulate Matter (PM₁₀)

Emission Limit: 17.13 lb/hr

Authority for Requirement: DNR Construction Permit 75-A-282-S8

Pollutant: Particulate Matter (PM)

Emission Limit: 0.6 lb/MMBtu ⁽²⁾

Authority for Requirement: DNR Construction Permit 75-A-282-S8
567 IAC 23.3(2)"b"

⁽²⁾ Per 567 IAC 23.3(2)"b", the overall plant emissions for those units in operation prior to January 13, 1976 are limited to a maximum average of 0.3 lb/MMBtu based on a total plant heat input of 971 MMBtu/hr.

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 627.14 lb/hr ⁽³⁾

Authority for Requirement: DNR Construction Permit 75-A-282-S8

⁽³⁾ SO₂ emission limits are as follows for this emission unit:

- 6 lb/MMBtu (heat input) per 567 IAC 23.3(3)"a" when Boiler 11 is not operating and Boiler 10 is operating on solid fuel. This standard is a replicated maximum three (3) hour average.
- 3.04 lb/MMBTU (heat input) when Boiler 11 is operating. This standard is a three (3) hour rolling average. This limit is per the June 9, 1987 EPA Prevention of Significant Deterioration (PSD) permit for Boiler 11 which was amended on January 19, 1988.
- 500 ppmv per 567 IAC 23.3(3)"e" when Boiler 11 is not operating and Boiler 10 is operating on natural gas.

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 92.62 lb/hr

Authority for Requirement: DNR Construction Permit 75-A-282-S8

Pollutant: Carbon Monoxide (CO)

Emission Limit: 123.8 lb/hr

Authority for Requirement: DNR Construction Permit 75-A-282-S8

Operational Limits & Reporting/Recordkeeping 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 main fuels for this emission unit (EU PP06) are bituminous coal, tire derived fuel (TDF), and natural gas. In addition, this emission unit (EU PP06) shall be allowed to fire on the following approved alternative fuels:
- *Biomass.* The following materials under this category are approved without further review:
 - g. Sawdust
 - h. Wood chips
 - i. Brush
 - j. Leaves
 - k. Fuel grasses
 - *Recycled paper sludge*
 - *Fuel Pellets.* The following materials under this category are approved without further review:
 - Sustainable Energy Pellets limited to containing the following materials: recycled (primary) paper sludge, paper products, non-polyvinyl chloride (PVC) plastics, agricultural residual streams, and biomass (i.e. wood, grass, etc.) from the following approved suppliers (NOTE: the name of the company listed is the

name at the time of permit issuance.):

❖ Convergen Energy

The owner or operator shall keep the following records for each shipment (unless otherwise noted) of the fuel received:

- (1) Documentation from the supplier showing the type of fuel received. For fuels that have multiple types (i.e. coal) the type of that fuel shall also be documented (i.e. bituminous, sub-bituminous, lignite, etc.).
 - (2) A copy of the most recent ultimate and proximate analysis for Sustainable Energy Pellets (not required for each shipment).
 - (3) The heat content (in BTU/lb) of each solid fuel (i.e. coal, TDF, and approved alternative fuel). The owner or operator shall either
 - (a) Obtain documentation from the supplier of the fuel showing the heat content of the fuel in BTU/lb; or
 - (b) Take samples and analyze each shipment of solid fuel to determine the heat content of that fuel in BTU/lb. If sampling will be performed on-site, each sample shall be obtained using the procedures outlined in ASTM D2234-76. If multiple shipments of a fuel are received during a calendar week, the sampling shall be representative of all shipments received during that calendar week.
- B. Prior to the use of any alternative fuels that fall under the categories listed in Permit Condition A., unless otherwise specified in those conditions, the owner or operator shall supply material data to the Department for review and approval. This data shall include, but is not limited to:
- A description of the alternative fuel,
 - A complete chemical analysis of the fuel,
 - An estimated amount of the alternative fuel to be combusted, and
 - An evaluation of the impact on air emissions.
- C. The amount of TDF fired shall not exceed 8% (by weight) of the fuel feed. The owner or operator shall keep the following records:
- (1) For each calendar day:
 - (a) Record the amount (in pounds or tons) of coal combusted in this emission unit (EU PP06) during that day;
 - (b) Record the amount (in pounds or tons) of TDF blended with the coal during that day; and
 - (c) Record the amount (in pounds or tons) of approved alternative fuels listed in Condition A. blended with the coal during that day.
 - (2) Within seven (7) days of the end of a calendar month, calculate and record the percent (%) of TDF consumed in this unit for each calendar day over the previous month.
- D. The maximum heat input of this emission unit (EU PP06) when firing coal and/or TDF and/or any of the fuels listed in Condition A. shall not exceed 206.3 MMBTU/hr on a calendar day average. The owner or operator shall:
- (1) Calculate and record the daily average hourly heat input to the emission unit (EU PP06) within ten (10) days of the end of each calendar month. This calculation shall be on the daily fuel consumption rates recorded for Conditions B.(1)(i) – B.(1)(iii). Additionally, the heat content of the fuel which is used in this calculation shall be the average heat content of all fuel received that week. If weekly composite sampling is being conducted, the results of this analysis shall be considered the average heat

content of the fuel received that week.

- E. The owner or operator shall keep a log of the most recent stack test that demonstrated compliance and a log of the percentage (by heat input) of alternative fuel combusted during that stack test that demonstrated compliance with the emission limits in this permit.
- F. The owner or operator shall conduct an inspection of the emission unit (EU PP06) and the associated control equipment (CE PP27, CE PP06B, and CE PP06C) at a minimum of once per year and correct/repair any issues discovered during the inspection. The owner or operator shall maintain a log of all inspections and maintenance activities performed on the emission unit (EU PP06) and the associated control equipment (CE PP06, CE PP27, and CE PP06C). This log shall include, but is not necessarily limited to:
 - (1) The date and time any inspection and/or maintenance was performed on the emission unit (EU PP06) and the associated control equipment (CE PP27, CE PP06B, and CE PP06C);
 - (2) Any issues identified during the inspection and the date each issue was resolved;
 - (3) Any issues addressed during the maintenance activities and the date each issue was resolved;
 - (4) Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 75-A-282-S8

NSPS and NESHAP Applicability

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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 198

Stack Opening, (inches, dia.): 80

Exhaust Flowrate (scfm): 56,400

Exhaust Temperature (°F): 330

Discharge Style: Vertical Unobstructed

Authority for Requirement: DNR Construction Permit 75-A-282-S8

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 – Particulate Matter (PM_{2.5})

Stack Test to be Completed: Within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate ^{(1) (2)}

Test Method – 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement – DNR Construction Permit 75-A-282-S8

Pollutant – Particulate Matter (PM₁₀)

Stack Test to be Completed: Within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate ^{(1) (2)}

Test Method – 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement – DNR Construction Permit 75-A-282-S8

⁽¹⁾ Testing is required within one hundred twenty (120) days of introducing an approved fuel from the list in Operational Limits & Reporting and Recordkeeping Requirements section above. The owner or operator shall track the percentage of approved fuel used during the stack test and shall be limited to that percentage except as allowed in the footnote below until an approved test is conducted at a higher rate.

⁽²⁾ The owner or operator shall notify the Department sixty (60) days prior to proposing to increase the amount of an approved alternative fuel from the list in Operational Limits & Reporting and Recordkeeping Requirements section above by more than 10% by heat input from the rate previously tested. A new stack test shall be conducted within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate.

Continuous Emissions Monitoring:

The following continuous emission monitoring requirements apply to this emission point and its associated emission unit(s) and control equipment:

A. The following monitoring systems are required:

- SO₂:

In accordance with the Prevention of Significant Deterioration (PSD) permit issued by EPA on June 9, 1987 and amended on January 19, 1988, 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 sulfur dioxide (SO₂) emissions. All emission averages shall be the arithmetic average emission rate.

Except for periods associated with system breakdowns, repairs, calibration checks, and zero and span adjustments, the CEMS shall be in continuous operation. The CEMS shall complete a minimum of one cycle of sampling, analyzing and data recording for each successive 15-minute period.

The CEMS shall continuously meet all the data recovery and performance requirements outlined in the USEPA permit referenced above. Should the CEMS fail to meet the data recovery and quality requirements that are specified in the referenced PSD permit, the owner/operator shall immediately take all necessary corrective measures to return the CEMS to the requirements of the above referenced permit. Failure to correct the situation

will constitute a violation of the CEMS operating requirements of the above referenced permit.

The owner/operator shall check the system periodically to determine if the CEMS readings are both accurate and precise. Daily quality assurance (QA) checks shall be done in accordance with the minimum requirement of 40 CFR 60.13 for each parameter monitored by assessing the precision and accuracy of the CEMS data using, at a minimum the procedures of 40 CFR 60 Appendix F, Procedure 1.

Unless otherwise approved by the EPA regional office, the selection of the SO₂ CEM span value (maximum data display output) shall be 200 percent of the nominal emission limitation specified in the above referenced permit.

CEMS data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, zero and span adjustments and periods of boiler non-operation shall not be included in the data averages computed to demonstrate compliance.

- **NO_x:**
Due to the variability of NO_x emissions from this emission unit (EU PP06), 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 nitrogen oxide (NO_x) emissions, except as provided by 40 CFR §60.45(b).

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. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- **O₂ or CO₂:**
Per the above mentioned EPA PSD permit, the owner or operator shall install, calibrate, maintain, and operate a CEMS and record the output of the system, for measuring the oxygen (O₂) or carbon dioxide (CO₂) content of the flue gases at each location where SO₂ or NO_x emissions are monitored.
- **CO:**
Due to the relationship of NO_x and CO, 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. Appendix F requirements shall be supplemented with a quarterly notice to the

Department with the dates of the quarterly cylinder gas audits and annual relative accuracy test audit.

- *Flowmeter:*

The owner or operator 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.

- B. Appendix F requirements shall be supplemented with a quarterly notice to the Department with the dates of the quarterly cylinder gas audits (CGA) and annual relative accuracy test audit (RATA). Annual RATAs and quarterly CGAs are required to be conducted on all CEMS and flowmeters required by this permit. The results shall be reported in units of the standards.

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.

- C. The CEMS required in Condition A. above for NO_x and CO 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. The following data requirements shall apply to the NO_x and CO 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 NO_x and CO emission rates measured by the CEMS and flow measured by the flowmeter 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 (NO_x and CO), the owner or operator shall substitute data by:
 - (i) If the quarterly 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:
 - (a) 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.
 - (b) 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.
- (ii) If the quarterly 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:
- (a) 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.
 - (b) 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.
- (iii) If the quarterly 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.

Authority for Requirement: DNR Construction Permit 75-A-282-S8

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)

Compliance Assurance Monitoring (CAM) Plan for Boiler 10 (EP-PP06)

BACKGROUND

A. Emissions Unit:

Description: Boiler #10, Spreader Stoker
Identification: EU-PP06
Facility: University of Iowa (Main Power Plant)

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Regulation No.: DNR Construction Permit 75-A-282-S8
Particulate emission limit: 0.6 lb/MMBtu PM; 17.13 lb/hr PM₁₀; 15.27 lb/hr PM_{2.5}
Opacity emission limit: 40%; Indicator Opacity 10%
Current Monitoring requirements: 6-Minute Opacity Average

C. Control Technology:

Fabric Filter

MONITORING APPROACH

General Monitoring Guidelines

- CAM involves the observation of control equipment compliance indicators: pressure drop across the baghouse and one hour opacity average from the opacity monitor. This plan defines acceptable ranges for these indicators. CAM also includes control equipment inspections when excursions of the indicator have taken place and possible corrective action and maintenance if necessary.
- Monitoring is not required during periods of time greater than one day in which the source does not operate.
- Monitoring is not required during periods when only natural gas is being combusted in the boiler.

Excursion from Compliance Indicators

- An Excursion occurs when an observed compliance indicator is outside of its defined acceptable indicator range during normal operations for a prescribed period, not including start up and shutdown events. An excursion does not necessarily indicate a violation of applicable permit terms, conditions, and/or requirements. However, an excursion must be reported in the Annual Compliance Certification Report.
- Corrective actions will begin as soon as possible, but no later than eight hours from the observation of the excursion.

	Indicator #1	Indicator #2
I. Indicator	Differential Pressure across the baghouse	Continuous Opacity Monitoring System
A. Measurement Approach	Differential Pressure measured continuously, in inches, across the baghouse.	Six-Minute Opacity Average
II. Indicator Range	An excursion is defined as a differential pressure reading across the baghouse module outside the acceptable range. The acceptable range is 1 to 10 inches of water. Excursions trigger an inspection, corrective action and a recordkeeping requirement.	An excursion is defined as any exceedance of a predetermined excursion point. Excursions are triggered when the six-minute opacity CAM indicator exceeds 10%. Excursions trigger an inspection, corrective action and a recordkeeping requirement.
III. Performance Criteria		
A. Data Representativeness	An observation of the differential pressure below 1 inches of water or greater than 10 inches of water across the baghouse, or a six minute opacity average greater than 10% for a period of 1 hour or greater could reveal a decrease in the performance of the control equipment and potentially result in an increase of particulate emissions if corrective actions are not initiated.	
B. Recordkeeping and Reporting (Verification of Operational Status)	*Daily pressure drop readings *Record any excursion and corrective actions resulting from readings outside the indicator range, inspections and maintenance.	Whenever the opacity is greater than 10%, document the duration and cause if known, corrective actions taken and any inspections and maintenance conducted.
C. QA/QC Practices/Criteria	The pressure gauge will be calibrated, maintained, and operated according to the manufacturer's specifications.	The COM shall follow 40 CFR Part 60 requirements.
4. Monitoring Frequency	The differential pressure will be monitored continuously when the baghouse is operating. Visual and audible alarms are activated in the operator control room if differential pressure across the baghouse falls outside the indicator range.	Record all excursion events.
5. Data Collection Procedures	Differential Pressure readings are recorded in the plant information (PI) system and will be maintained for 5 years.	Readings will be recorded and maintained for 5 years.

Compliance Assurance Monitoring Plan

Multiclone for PM Control

I. Background

A. Emissions Unit:

Description: Boiler #10, Spreader Stoker
 Identification: EU-PP06
 Facility: University of Iowa (Main Power Plant)

B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Regulation No.: DNR Construction Permit 75-A-282-S8
 Particulate emission limit: 0.6 lb/MMBtu PM; 17.13 lb/hr PM₁₀; 15.27 lb/hr PM_{2.5}
 Opacity emission limit: 40%
 Current Monitoring requirements: Stack Testing
 Continuous opacity monitoring system
 Physical inspection

C. Control Technology: Multiclone system

II. Monitoring Approach

	Indicator # 3
A. Indicators	Differential pressure across the multiclone.
B. Measurement Approach	Differential pressure measured continuously, in inches, across the multiclone.
C. Indicator Range	An excursion is defined as a differential pressure reading across the multiclone device outside the acceptable range. The acceptable range is 0.1 to 3.0 inches of water. Excursions trigger an inspection, corrective action, and a recordkeeping requirement.
D. Performance Criteria	
1. Data Representativeness	An observation of the differential pressure below 0.1 inches of water or greater than 3.0 inches of water across the multiclone could reveal a decrease in the performance of the control equipment and potentially result in an increase of particulate matter loading on the downstream baghouse if corrective actions are not initiated.
2. Recordkeeping and Reporting (Verification of Operational Status)	Continuous pressure drop readings. Record any excursion and corrective actions resulting from readings outside the indicator range.

3. QA/QC Practices/Criteria	The differential pressure gauge will be calibrated, maintained, and operated according to the manufacturer's specifications.
4. Monitoring Frequency	The differential pressure will be monitored continuously when the multiclone is operating. Visible and audible alarms are activated in the operator control room if differential pressure across the multiclone falls outside the indicator range. The multiclone will be physically inspected, and appropriate maintenance performed, on an annual basis.
5. Data Collection Procedures	Electronic differential pressure readings are recorded in the plant data historian (PI database). Maintenance and inspection information is maintained in a computerized maintenance system (AIM).
6. Averaging Period	None.

Emission Point ID Number: EP-PP07Associated Equipment

Associated Emission Unit ID Number: EU-PP07

Emission Unit	Emission Unit Description	Control Equipment	Continuous Emissions Monitors ID Numbers	Rated Capacity
EU-PP07	Boiler #11, Coal-fired Circulating Fluidized Bed	CE-PP28: Limestone Injection	None	223.0 MMBtu/hr
		CE-PP07: Baghouse	ME-07-SO ₂ ME-07-NO _x ME-07-Opacity ME-07-CO ₂ ME-07-Flow	
		CE-PP07A: Dry Sorbent Injection	None	

Raw Material/Fuel: Coal, Oat Hulls, Natural Gas (startup), Clean Cellulosic Biomass, Fuel Pellets ⁽¹⁾⁽¹⁾ See Operational Limits & Reporting and Recordkeeping Requirements section for full list of allowed raw materials.**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.***BACT Emission Limits**

Pollutant: Opacity

Emission Limit: 10% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Particulate Matter (PM) – Federal

Emission Limit: 29.3 tons/yr ⁽²⁾

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Particulate Matter (PM) – Federal

Emission Limit: 0.03 lb/MMBtu ⁽³⁾

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Sulfur Dioxide (SO₂)Emission Limit: 977 tons/yr ⁽²⁾

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit: 1.0 lb/MMBtu; 90% reduction ^{(4) (5)}
Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 391 tons/yr ⁽²⁾
Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 0.40 lb/MMBtu ⁽⁶⁾
Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Carbon Monoxide (CO)
Emission Limit: 0.30 lb/MMBtu ⁽⁷⁾
Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Fluorides (F)
Emission Limit: 0.004507 lb/MMBtu ⁽⁷⁾
Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Beryllium (Be)
Emission Limit: 0.0000069 lb/MMBtu ⁽⁷⁾
Authority for Requirement: DNR Construction Permit 95-A-438-P4

⁽¹⁾ Standard is expressed as a six (6) minute period. Standard applies at all times except for one (1) six (6) minute period per hour of not more than 20% opacity.

⁽²⁾ Standard is a twelve (12) month rolling total and includes all periods of operation including periods of startup, shutdown, or malfunction (SSM).

⁽³⁾ Standard is expressed as a six (6) hour (minimum) block average [i.e. the sampling period for each run shall be at least two (2) hours and the minimum sampling volume shall be sixty (60) dry standard cubic feet] and applies at all times except for periods of SSM.

⁽⁴⁾ Standard is expressed as a three (3) hour rolling average and applies at all times except for periods of SSM.

⁽⁵⁾ The limit is 90% reduction (or greater) of the potential SO₂ emission rate. There shall be no crediting for fuel pretreatment. The following equation shall be used:

$$\% \text{ Reduction } (\%R) = 100 \times \left(1.0 - \frac{E_{SO_2}}{I_s} \right)$$

The standard is expressed as a thirty (30) day rolling average that includes all periods of operation including periods of SSM.

⁽⁶⁾ The standard is expressed as a thirty (30) day rolling average that includes all periods of operation including periods of SSM.

⁽⁷⁾ Standard is expressed as a three (3) hour average [i.e. the sampling period for each run shall be at least one (1) hour] and applies at all times except for periods of SSM.

NSPS Emission Limits

Pollutant: Opacity
Emission Limit: 20% ^{(1) (2)}
Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Particulate Matter (PM) – Federal

Emission Limit: 22 ng/J ⁽³⁾

Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 87 ng/J; 90% reduction ^{(4) (5)}

Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 260 ng/J ^{(6) (7)}

Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

⁽¹⁾ Standard is expressed as a six (6) minute average. The standard applies at all times except for one (1) six (6) minute period per hour of not more than twenty-seven percent (27%) opacity.

⁽²⁾ Per 40 CFR §60.43b(f), an owner or operator that elects to install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) for measuring federal particulate matter emissions (i.e. filterable emissions) according to the requirements of NSPS Subpart Db and is subject to a federally enforceable particulate matter limit of 0.030 lb/MMBTU or less is exempt from this opacity standard.

⁽³⁾ 22 nanograms/Joule (ng/J) = 0.051 pounds/million British Thermal Unit (lb/MMBTU).

⁽⁴⁾ Per 40 CFR §60.42b(a), no owner or operator shall discharge SO₂ emissions to the atmosphere greater than 87 ng/J (0.20 lb/MMBTU) heat input or ten percent (10%) of the potential SO₂ emission rate (90% reduction) and the emission limit determined by the following formula:

$$E_s = \frac{K_a H_a + K_b H_b}{H_a + H_b}$$

Where:

E_s = SO₂ emission limit (in ng/J or lb/MMBTU heat input);

K_z = 520 ng/J (or 1.2 lb/MMBTU);

K_b = 340 ng/J (or 0.80 lb/MMBTU);

H_a = heat input from the combustion of coal (in J or MMBTU); and

H_b = heat input from the combustion of oil (in J or MMBTU).

For facilities complying with the percent reduction standard, only the heat input supplied to the unit from the combustion of coal and oil is counted. No credit is provided for the heat input from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

⁽⁵⁾ Per 40 CFR §60.42b(e) and 40 CFR §60.42b(g), compliance with the emission limits and/or percent reduction requirements are determined on a thirty (30) day rolling average basis and apply at all times including periods of SSM.

⁽⁶⁾ 260 ng/J = 0.60 lb/MMBTU. Limit is required per 40 CFR §60.44b(c).

⁽⁷⁾ Per 40 CFR §60.44b(h) and 40 CFR §60.44b(i), compliance with the emission limits and/or percent reduction requirements are determined on a thirty (30) day rolling average basis and apply at all times including periods of SSM.

Other Emission Limits

Pollutant: Particulate Matter (PM₁₀)

Emission Limit: 11.15 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Particulate Matter (PM) – Federal

Emission Limit: 6.83 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 223 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 88.9 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant: Carbon Monoxide (CO)

Emission Limit: 66.7 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Operational Limits & Reporting/Recordkeeping 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 (EU EU-PP07) is limited to firing on the following fuels and alternative fuels:
- Coal
 - Oat hulls
 - Natural gas (startup)
 - Clean cellulosic biomass. The following materials under this category are approved without further review: wood chips, sawdust, brush, leaves, fuel grasses, corn stover, and recycled paper sludge.
 - Fuel Pellets. The following materials under this category are approved without further review:
 - Sustainable Energy Pellets limited to containing the following materials: recycled (primary) paper sludge, paper products, non-polyvinyl chloride (PVC) plastics, agricultural residual streams, and biomass (i.e. wood, grass, etc.) from the following approved suppliers (NOTE: the name of the company listed is the name at the time of permit issuance.):
 - ❖ Convergen Energy Pellets
- B. The owner or operator shall keep a certified record from the fuel supplier of all the material(s) currently used to make the fuel pellets along with a copy of the most recent ultimate and proximate analysis for the pellets.

- C. For each day of operation:
- The date,
 - The fuel(s) combusted that day,
 - The total amount of each fuel combusted (in tons/day),
 - The hours the emission unit operated, and
 - The percentage of oat hulls (by weight) combusted on an hourly average
- D. Prior to use of any fuels or materials that fall under the categories listed in Condition A above, unless otherwise specified in those conditions, the owner or operator shall supply material data to the Department for review and approval. This data shall include, but is not limited to:
- A description of the alternative fuel,
 - A complete chemical analysis of the material,
 - Evaluation of the impact on air emissions, and
 - An analysis of why the fuel/material should be classified under one of fuel categories approved in Condition A above.
- E. The maximum amount of oat hulls combusted shall not exceed 80% (by weight) on an hourly average basis.
- F. After the initial compliance tests, the owner or operator shall collect a twenty-four (24) hour representative coal sample. The coal sample shall meet the following conditions
- (1) The frequency shall be at least once every two (2) weeks and whenever the owner or operator changes the coal supply.
 - (2) Coal sampling and analyses (CSA) under this condition is not required if the subject boiler is not operated during the two (2) week period or if the boiler is operated on a fuel other than coal. If the boiler is operated on a fuel other than coal, the average of the last three (3) coal sample sulfur analyses shall be used for the purposes of estimating the potential SO₂ rate referenced in footnote 3 in the BACT Emission Limits section.
 - (3) Each composite sample shall meet the sampling requirements for special purpose sampling of ASTM D2234-76.
 - (4) The composite sample collection classification shall meet Type 1, Condition A, B, or C, with systematic spacing, as defined by ASTM D2234-76.
 - (5) The composite sample shall be collected as close to an "as-fired" condition as practicable.
 - (6) The proposed location, sampling, and analytical collection methodology shall be submitted to and approved by the PSD permit reviewing authority prior to operation of the herein-approved boiler.
 - (7) For each coal sample collected after the initial compliance test, the owner or operator shall obtain an analysis of the Be and F content within two (2) weeks of the sample collection.
 - (8) After a year of operation of the PSD-approved boiler, the owner or operator may request a revision of (including the elimination of) the Be and/or F sampling frequency if a lesser frequency appears appropriate.
 - (9) Of its own accord, the PSD permit reviewing authority may also revise the frequency and/or the CSA procedures of this condition if it determines that a revision is needed for purposes of verification of compliance with the Be and/or F emission limit(s).
 - (10) The Be and F concentrations that are determined through the above sampling and

analyses procedures shall serve as an indicator of probable compliance (or noncompliance) with the applicable BACT emission limit.

- (11) When requested to do so by the PSD permit reviewing authority, the owner or operator shall at its own expense formally verify compliance through stack testing of boiler emissions with subsequent submittal of a report of the test.

G. On a calendar-quarter basis the owner or operator shall submit a report of the following to the permitting authority:

- Each SO₂ and NO_x emission rate in excess of the BACT emission limit,
- Each excess opacity reading,
- Each twenty-four (24) hour SO₂ inlet concentration (daily),
- Each twenty-four (24) hour SO₂ outlet concentration (daily),
- Each thirty (30) day (calculated) rolling average emission reduction,
- CEMS operating status as a percent of the total boiler operating time, and
- Periods of monitor downtime, reason, and corrective actions taken to prevent reoccurrence (date and duration).

All reports are to be submitted in accordance with 40 CFR §60.7(c).

H. All other applicable operating limits set forth in NSPS Subparts A (40 CFR §60.1 – 40 CFR §60.19) and Db (40 CFR §60.40b – 40 CFR §60.49b) not specifically listed in this permit.

I. Per 40 CFR §60.49b(d)(1), the owner or operator shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a twelve (12) month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

J. Per 40 CFR §60.49b(f), the owner or operator shall maintain records of opacity.

K. Per 40 CFR §60.49b(g), the owner or operator shall maintain records of the following information:

- The calendar date;
- The average hourly NO_x emission rates, expressed as NO₂ (ng/J or lb/MMBTU heat input), measured or predicted;
- The thirty (30) day average NO_x emission rates (ng/J or lb/MMBTU heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding thirty (30) steam generating unit operating days;
- Identification of the steam generating unit operating days when the calculated thirty (30) day average NO_x emission rates are in excess of the NO_x emission standards under 40 CFR §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;
- Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;
- Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
- Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
- Identification of the times when the pollutant concentration exceeded full span of the

- CEMS;
 - Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and
 - Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR 60, Appendix F, Procedure 1.
- L. Per 40 CFR §60.49b(k), the owner or operator shall maintain records of the following information:
- The calendar dates covered in the reporting period;
 - Each thirty (30) day average SO₂ emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last thirty (30) day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken. For an exceedance due to maintenance of the SO₂ control system covered in paragraph 40 CFR §60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;
 - Each thirty (30) day average percent reduction in SO₂ emissions calculated during the reporting period, ending with the last thirty (30) day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;
 - Identification of the steam generating unit operating days that coal or oil was combusted and for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;
 - Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;
 - Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
 - Identification of times when hourly averages have been obtained based on manual sampling methods;
 - Identification of the times when the pollutant concentration exceeded full span of the CEMS;
 - Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3;
 - Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR 60, Appendix F, Procedure 1; and
 - The annual capacity factor of each fuel fired as provided under 40 CFR §60.49b(d).
- M. All other applicable recordkeeping set forth in NSPS Subparts A (40 CFR §60.1 – 40 CFR §60.19) and Db (40 CFR §60.40b – 40 CFR §60.49b) not specifically listed in this permit.
- N. The owner or operator shall conduct an inspection of the emission unit (EU EU-PP07) and the associated control equipment (CE CE-PP28, CE CE-PP07, and CE CE-PP07A) at a minimum of once per year and correct/repair any issues discovered during the inspection.
- O. The owner or operator shall maintain a log of all inspections and maintenance activities performed on the emission unit (EU PP07) and the associated control equipment (CE CE-PP07, CE CE-PP28, and CE CE-PP07A). This log shall include but is not limited to the date the inspection or maintenance activity occurred and any issues identified or addressed.

Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*; 40 CFR §60.1 – 40 CFR §60.19) and Db (*Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*; 40 CFR §60.40b – 40 CFR §60.49b) of the New Source Performance Standards (NSPS).

Authority for Requirement: DNR Construction Permit 95-A-438-P4
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR Part 63 Subpart DDDDD

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 198

Stack Opening (inches, dia.): 60

Exhaust Flowrate (scfm): 50,000

Exhaust Temperature (°F): 325

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 95-A-438-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 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 – Particulate Matter (PM₁₀)

Stack Test to be Completed: Within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate. ⁽¹⁾

Test Method – 40 CFR 51, Appendix M, 201A with 202

Authority for Requirement: DNR Construction Permit 95-A-438-P4

Pollutant – Carbon Monoxide (CO) ⁽²⁾

Stack Test to be Completed: Within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate. ⁽¹⁾⁽³⁾

Test Method – 40 CFR 60, Appendix A, Method 10

Authority for Requirement – DNR Construction Permit 95-A-438-P4

⁽¹⁾ The owner or operator shall notify the Department sixty (60) days prior to proposing to increase the amount of an approved alternative fuel from Operational Limits & Reporting and Recordkeeping Requirements condition A by more than 10% by heat input from the rate previously tested. A new stack test shall be conducted within one hundred twenty (120) days of starting to increase the approved fuel to the new mixture rate.

⁽²⁾ CO and NO_x compliance tests shall reflect the same operating/combustion conditions. Compliance with the NO_x BACT emission limit shall take preference if difficulties are encountered in achieving simultaneous compliance with these BACT emission limits. If such difficulties are encountered, the owner or operator may subsequently request a revision of the CO BACT emission limit.

⁽³⁾ Testing is required within one hundred twenty (120) days of introducing an approved alternative fuel from the list in Condition A. The owner or operator shall track the percentage of approved fuel used during the stack test and shall be limited to that percentage except as allowed in Footnote 1 until an approved test is conducted at a higher rate.

Continuous Emissions Monitoring:

The owner or operator shall install, calibrate, maintain, and operate continuous emission monitoring (CEM) systems, and continuously record the output of the systems, for measurement of the SO₂, NO_x, opacity, and oxygen (or carbon dioxide instead of oxygen) emissions from the herin-approved boiler (Boiler 11).

Each CEMS installed pursuant to this permit shall be designed, installed, performance evaluated, calibrated, maintained, and operated in accordance with 40 CFR §60.13 and the applicable Performance Specification of 40 CFR 60, Appendix B and as required in this permit. It is the responsibility of the owner or operator to locate the CEMS in a manner that conforms to the Appendix B requirements.

At all times the subject boiler is in operation, compliance with the SO₂, NO_x, and opacity standards (as applicable) that are set forth in Condition 1 shall be continuously demonstrated by the owner or operator through the use of the CEMS. All emission averages shall be the arithmetic average emission rate.

Except for periods associated with system breakdowns, repairs, calibration checks, and zero and span adjustments, the CEMS shall be in continuous operation. The SO₂ and NO_x CEMS shall complete a minimum of one (1) cycle of sampling, analyzing, and recording for each successive fifteen (15) minute period. The opacity CEMS shall complete a minimum of one (1) cycle of sampling and analyzing for each successive ten (10) second period and one (1) cycle of data recording for each successive six (6) minute period.

Each CEMS shall continuously meet all the data recovery and performance requirements of this permit. Should the SO₂ or NO_x CEMS fail to meet the applicable data recovery and quality requirements that are specified herein, the owner or operator shall immediately take all necessary corrective measures to return the CEMS to the requirements of this permit. Failure to correct the situation will constitute a violation of the CEMS operating requirements of this permit.

In order to ensure validation of all CEM compliance data, the owner or operator shall check the systems periodically to determine if the CEMS readings are both accurate and precise. Quality assurance (QA) checks shall be done in accordance with the minimum requirements of 40 CFR §60.13 for each parameter monitored by assessing the precision and accuracy of the CEMS data using at a minimum the manufacturer's recommended quality assurance procedures.

For the gaseous monitors (SO₂ and NO_x), the procedures of 40 CFR 60, Appendix F, Procedure 1 shall be followed by the owner or operator for the CEMS in question.

Unless otherwise approved by the permit issuing agency, the selection of the SO₂ CEMS span value (maximum data display output) shall be 200 percent of the nominal emission limit specified in this permit for that pollutant. The span value for the NO_x CEM shall be 1,000 ppm. The span value for the opacity CEMS shall be between 60 and 80 percent.

For the CEMS which continually monitor and record emissions of SO₂, NO_x, or opacity, the record (in units of the standard) of the specific CEMS will be continual evidence of compliance (or noncompliance) with the applicable permit emission standard. Where data produced by the CEM and concurrent data produced pursuant to other methodologies differ for the same period of time, and both the CEMS and the conflicting data are collected in accordance with all applicable provisions and requirements of federal law, regulation, and this permit, the CEMS data shall be the best and most probative evidence of compliance with applicable performance or emission standards of this permit.

The average hourly SO₂ and NO_x emission rates that are derived using the CEMS data (and as discussed in 40 CFR §60.13) shall be converted to units of the standard (lb/MMBTU of heat input) and shall be used by the owner or operator to calculate the average emission rate over the other averaging periods listed in this permit. For conversion of monitored data to units of the BACT emission limits, the conversion and rounding off procedures set forth in 40 CFR §60.13 shall be followed.

CEMS data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, zero and span adjustments, and periods of boiler nonoperation shall not be included in the data averages computed under this permit.

NOTE: A "boiler operating day" means each 24-hour period between midnight and the following midnight during which any fuel is combusted in the boiler. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Authority for Requirement: DNR Construction Permit 95-A-438-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 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)

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)

CAM Plan for Boiler 11 (EP-PP07) Bag house

I. Background

A. Emissions Unit

Description: Boiler #11, Circulating Fluidized Bed Boiler

Identification: EU-PP07

Facility: University of Iowa (Main Power Plant)

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.: DNR Construction Permit 95-A-438-P4

Particulate emission limit: 0.03 lb/MMBtu, 6.83 lb/hr PM Federal; 11.15 lb/hr PM₁₀

Opacity emission limit: 10%

Current Monitoring requirements: Stack testing
Monitor Baghouse Pressure Drop Continuously
Six-Minute Opacity Average

C. Control Technology

Fabric Filter

II. Monitoring Approach

General Monitoring Guidelines

- CAM involves the observation of control equipment compliance indicators: pressure drop across the baghouse and six-minute opacity average from the opacity monitor. This plan defines acceptable ranges for these indicators. CAM also includes control equipment inspections when excursions of the indicator have taken place and possible corrective action and maintenance if necessary.
- Monitoring is not required during periods of time greater than one day in which the source does not operate.
- Monitoring is not required when only natural gas is combusted in the boiler

Excursion from Compliance Indicators

- An excursion occurs when an observed compliance indicator is outside of its defined acceptable indicator range during normal operations for a prescribed period, not including start up and shutdown events. An excursion does not necessarily indicate a violation of applicable permit terms, conditions, and/or requirements. However, an excursion must be reported in the Annual Compliance Certification Report.
- Corrective actions will begin as soon as possible, but no later than eight hours from the observation of the excursion.

	Indicator #1	Indicator #2
A. Indicator	Differential pressure across baghouse	Continuous Opacity Monitoring System
B. Measurement Approach	Differential pressure measured continuously, in inches, across the baghouse.	Six-Minute Opacity Average
C. Indicator Range	An excursion is defined as a differential pressure reading across the baghouse module outside the acceptable range. The acceptable range is 0.5 to 12.5 inches water. Excursions trigger an inspection, corrective action and a recordkeeping requirement.	An excursion is defined as any exceedance of a pre-determined excursion point related to a baghouse failure. Excursions are triggered when the six-minute opacity CAM indicator exceeds 6.8 % for a period of 1 hour or greater due to a baghouse failure. Excursions trigger an inspection, corrective action and a recordkeeping requirement.
D. Performance Criteria		
1. Data Representativeness	An observation of the differential pressure below 0.5 inches of water or greater than 12.5 inches of water across the baghouse for a period of 1 hour or greater could reveal a decrease in the performance of the control equipment and potentially result in an increase of particulate emissions if corrective actions are not initiated.	The COMS was installed at a representative location in the baghouse exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1). An observation of a six-minute opacity average greater than 6.8 % for a period of 1 hour or greater could reveal a decrease in the performance of the control equipment and potentially result in an increase of particulate emissions if corrective actions are not initiated.
2. Recordkeeping and Reporting (Verification of Operational Status)	Daily pressure drop readings Record any excursions and corrective actions resulting from readings outside the indicator range, inspections and maintenance.	Whenever the opacity is greater than 6.8 % for 1 hour, document the duration and cause if known, corrective actions taken and any inspections and maintenance conducted.

3. QA/QC Practices and Criteria	Pressure gauge will be calibrated, operated, and maintained according to the manufacturer's specifications.	The currently installed COMS was last evaluated per 40 CFR Part 60 requirements on June 3, 2010. The continuous opacity monitor will be automatically calibrated for zero and span adjustments daily.
4. Monitoring Frequency	The differential pressure will be monitored continuously when the baghouse is operating. Visual and audible alarms are activated in the operator control room if differential pressure across the baghouse falls outside the indicator range.	Monitor the opacity of the ESP exhaust continuously (every 10 seconds). Six minute averages of opacity are recorded by the CEMS to create a 1 hour average.
5. Data Collection Procedures	Differential pressure readings are recorded in the plant information (PI) system and will be maintained for 5 years.	Set up the data acquisition system (DAS) to retain all 6-minute and hourly average opacity data. Opacity data is recorded continuously and will be maintained in the CEMS database.
6. Averaging Period	Daily	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate the hourly block average opacity.

Emission Point ID Numbers: EP-PP43 & EP-PP44

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Operational Capacity	Construction Permit
EP-PP43	EU-PP43	Boiler T1	CE-PP43: Low NOx Burner	Natural Gas	77 MMBtu/hr	06-A-778-S4
EP-PP44	EU-PP44	Boiler T2	CE-PP44: Low NOx Burner		72 MMBtu/hr	06-A-779-S4

Rated Capacity: 93 MMBtu/hr each

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 Limits: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4
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 (PM₁₀)

Emission Limits: 0.91 lb/hr

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4

Pollutant: Particulate Matter (PM)

Emission Limits: 0.91 lb/hr, 0.6 lb/MMBtu

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limits: 500 ppmv

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 4.20 lb/hr – EP-PP43 only

Authority for Requirement: DNR Construction Permit 06-A-778-S4

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 4.80 lb/hr – EP-PP44 only

Authority for Requirement: DNR Construction Permit 06-A-779-S4

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit: 2.00 lb/hr

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4

Pollutant: Carbon Monoxide (CO)

Emission Limit: 6.00 lb/hr

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4

Operational Limits & Reporting/Recordkeeping 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 owner or operator shall use natural gas as the only fuel for Boiler T1 (EU-PP43) and Boiler T2 (EU-PP44).
 - (1) The owner or operator shall maintain a record of the type of fuel burned in Boiler T1 (EU-PP43) and Boiler T2 (EU-PP44).
 - (2) Prior to burning any other fuel in these units, the owner or operator shall apply for an obtain amended construction permits from the Department.
- B. The owner or operator shall operate Boiler T1 (EU-PP43) as follows:
 - (1) The maximum heat input for this boiler shall not exceed a daily average of 77 million Btu per hour.
 - a. The owner or operator shall maintain the following daily records:
 - i. Date.
 - ii. Total amount, in cubic feet, of natural gas that Boiler T1 (EU-PP43) combusted that day.
 - iii. Total heat content, in Btu, of the natural gas that Boiler T1 (EU-PP43) combusted that day, assuming a high heating value of 1,000 Btu per cubic feet.
 - iv. Number of hours that Boiler T1 (EU-PP43) operated that day.
 - v. Average hourly heat input for Boiler T1 (EU-PP43) on that day.
- C. The owner or operator shall operate Boiler T2 (EU-PP44) as follows:
 - (1) The maximum heat input for this boiler shall not exceed a daily average of 72 million Btu per hour.
 - a. The owner or operator shall maintain the following daily records:
 - i. Date.
 - ii. Total amount, in cubic feet, of natural gas that Boiler T2 (EU-PP44) combusted that day.
 - iii. Total heat content, in Btu, of the natural gas that Boiler T2 (EU-PP44) combusted that day, assuming a high heating value of 1,000 Btu per cubic feet.
 - iv. Number of hours that Boiler T2 (EU-PP44) operated that day.
 - v. Average hourly heat input for Boiler T2 (EU-PP44) on that day.
- D. Boiler T1 (EU-PP43) and Boiler T2 (EU-PP44) are subject to 40 CFR Part 60, Subpart Dc [§60.40c - §60.48c]; therefore, the owner or operator shall comply with the applicable

standards, including those not specifically mentioned in this Collection of Air Permits.

(1) Per 40 CFR §60.48c(g)(1) of Subpart Dc, the owner or operator shall record and maintain records of the amount of fuel combusted in Boiler T1 (EU-PP43) and Boiler T2 (EU-PP44) during each operating day for these units. As an alternative to this requirement, the owner or operator may elect to:

- a. Record and maintain records of the amount of fuel combusted during each calendar month [§60.48c(g)(2)] or
- b. Record and maintain records of the total amount of steam generating unit fuel delivered to the property during each calendar month [§60.48c(g)(3)].

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4
40 CFR Part 60 Subpart Dc
567 IAC 23.1(2)"III"

NSPS and NESHAP Applicability

These emission units are subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Dc (*Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 CFR Part 60.40c – 40 CFR Part 60.48c) of the New Source Performance Standards (NSPS).

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-S4
40 CFR Part 60 Subpart Dc
567 IAC 23.1(2)"III"

These units are 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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirements: 40 CFR Part 63 Subpart DDDDD

Emission Point Characteristics

Each emission point shall conform to the conditions listed below.

Stack Height (feet): 90

Stack Opening (inches): 30

Exhaust Flowrate (scfm): 18,100

Exhaust Temperature (°F): 600

Discharge Style: Vertical unobstructed

Authority for Requirements: DNR Construction Permits 06-A-778-S4, 06-A-779-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 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 Demonstrations

EP ID	Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
EP-PP43	NO _x	Stack Testing ⁽¹⁾	Initial ⁽¹⁾	1 hour	40 CFR 60, Appendix A, Method 7E
			One Time		
EP-PP44	CO	Stack Testing ⁽¹⁾	Initial ⁽¹⁾	1 hour	40 CFR 60, Appendix A, Method 10
			One Time		

⁽¹⁾The owner or operator shall conduct initial stack testing on EP-PP43 and EP-PP44 to demonstrate compliance with the NO_x and CO emission limits in Permit Condition 1, Table 2. Stack testing shall be conducted while the affected boiler is operating at the maximum design capacity. If the testing average operating capacity is lower than the maximum design capacity, the test results shall be scaled-up to the maximum design capacity of 77 million Btu/hour for EP-PP43 (Boiler T1) and 72 million Btu/hour for EP-PP44 (Boiler T2).

Test Due Date: Within 60 days after achieving the maximum production rate but not later than 180 days after the initial startup date of the proposed equipment for the addition of new equipment or the physical modification of existing equipment or control equipment.

Authority for Requirement: DNR Construction Permits 06-A-778-S4, 06-A-779-S4

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)

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: EP-PP55

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP55	Boiler 12	CE-PP55A & CE-PP55B: Low NO _x Burner and Flue Gas Recirculation	Natural Gas	250 MMBtu/hr	17-A-106

Continuous Emissions Monitors ID Numbers: ME55-NO_x and ME55-CO₂

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 17-A-106
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: 1.85 lb/hr

Authority for Requirement: DNR Construction Permit 17-A-106

Pollutant: Particulate Matter (PM₁₀)

Emission Limit: 1.85 lb/hr

Authority for Requirement: DNR Construction Permit 17-A-106

Pollutant: Particulate Matter (PM)

Emission Limit: 1.85 lb/hr, 0.2 lb/MMBtu

Authority for Requirement: DNR Construction Permit 17-A-106
567 IAC 23.3(2)"b"(3)

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 500 ppmv

Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 9.00 lb/hr, 0.2 lb/MMBtu

Authority for Requirement: DNR Construction Permit 17-A-106
40 CFR 60.44b(a)
567 IAC 23.1(2)"ccc"

Pollutant: Carbon Monoxide (CO)

Emission Limit: 20.5 lb/hr

Authority for Requirement: DNR Construction Permit 17-A-106

Operational Limits & Reporting/Recordkeeping 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 control equipment shall be inspected and maintained according the facility's (Plant ID 52-01-005) operation and maintenance plan.
- B. The owner or operator shall keep records of control equipment inspections and maintenance.
- C. The owner or operator shall only combust natural gas in emission unit EU-PP55.
- D. The owner or operator shall follow the applicable standards of Subpart Db, 40 CFR §60.40b through 40 CFR §60.49b.
- E. The owner or operator shall record and maintain records of fuel as required in 40 CFR §60.49b(d) and 40 CFR §60.49b(r).
- F. The owner or operator shall maintain records of the following information for each steam generating unit operating day, as required in 40 CFR §60.49b(g). This information shall also be submitted in a report, as required in 40 CFR §60.49b(b), 40 CFR §60.49b(d), and 40 CFR §60.49b(w).

Authority for Requirement: DNR Construction Permit 17-A-106

40 CFR 60 Subpart Db

567 IAC 23.1(2)"ccc"

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Db (Standards of Performance for *Small Industrial-Commercial-Institutional Steam Generating Units* 40 CFR Part 60.40c – 40 CFR Part 60.48c) of the New Source Performance Standards (NSPS).

Authority for Requirement: DNR Construction Permit 17-A-106

40 CFR 60 Subpart Db

567 IAC 23.1(2) "ccc"

This emission unit 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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR 63 Subpart DDDDD

Emission Point Characteristics

The emission point shall conform to the conditions listed below.

Stack Height (feet): 150

Stack Opening (inches): 58

Exhaust Flowrate (scfm): 46,500

Exhaust Temperature (°F): 290

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 17-A-106

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.

Continuous Emissions Monitoring:

The owner or operator shall install, calibrate, maintain and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere. The CEM shall be operated and data collected as required under 40 CFR §60.48b(b), (c), (d), (e) and (f), or approved alternative monitoring plan.

Authority for Requirement: DNR Construction Permit 17-A-106

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)

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: EP-18

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-18	Pomerantz Family Pavilion Boiler	CE-18: Low NOx Burner and Flue Gas Recirculation	Natural Gas	60.4 MMBtu/hr	09-A-197

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 09-A-197
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 (PM₁₀)

Emission Limit: 0.46 lb/hr

Authority for Requirement: DNR Construction Permits 09-A-197

Pollutant: Particulate Matter (PM)

Emission Limit: 0.46 lb/hr, 0.6 lb/MMBtu

Authority for Requirement: DNR Construction Permits 09-A-197
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO₂)

Emission Limit: 0.04 lb/hr, 500 ppmv

Authority for Requirement: DNR Construction Permits 09-A-197
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)

Emission Limit: 1.93 lb/hr

Authority for Requirement: DNR Construction Permits 09-A-197

Pollutant: Carbon Monoxide (CO)

Emission Limit: 5.07 lb/hr

Authority for Requirement: DNR Construction Permits 09-A-197

Operational Limits & Requirements

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

1. This emission unit is limited to firing on natural gas.

Authority for Requirement: DNR Construction Permit 09-A-197

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. As specified in 40 CFR Part §60.48c(g), the owner or operator of this boiler shall record and maintain records of the fuels combusted during each calendar month.
2. As specified in 40 CFR §60.48c(f), the owner or operator of this boiler shall retain fuel supplier certification of the sulfur content of the fuels fired in this boiler.

Authority for Requirement: DNR Construction Permit 09-A-197
40 CFR 60 Subpart Dc
567 IAC 23.1(2)"III"

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Dc (*Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* 40 CFR Part 60.40c – 40 CFR Part 60.48c) of the New Source Performance Standards (NSPS).

Authority for Requirement: DNR Construction Permit 09-A-197
40 CFR 60 Subpart Dc
567 IAC 23.1(2)"III"

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, and *General Provisions*, 40 CFR Part 63 Subpart A.

Authority for Requirement: 40 CFR 63 Subpart DDDDD

Emission Point Characteristics

The emission point shall conform to the conditions listed below.

Stack Height (feet): 82

Stack Opening (inches): 42

Exhaust Flowrate (acfm): 17,115

Exhaust Temperature (°F): 300

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 09-A-197

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: EP-PP08, EP-PP09

Associated Equipment

Table: Coal Crushers #1 and #2

Emission Point	Emission Unit	Emission Unit Description	Control Equipment Number	Raw Material	Rated Capacity (ton/hr)	Construction Permit
EP-PP08	EU-PP08	Coal Crusher #1	CE-PP08: Dust Collector	Coal and Biomass	150	87-A-113-P1
EP-PP09	EU-PP09	Coal Crusher #2	CE-PP09: Dust Collector		150	87-A-114-P1

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.

BACT Emission Limits

Pollutant: Opacity

Emission Limits: No visible emissions

Authority for Requirements: PSD Permit dated June 9, 1987 amended on January 19, 1988
DNR Construction Permits 87-A-113-P1 and 87-A-114-P1

Other Emission Limits

Pollutant: Opacity

Emission Limits: 20%

Authority for Requirements: DNR Construction Permits 87-A-113-P1 and 87-A-114-P1
40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

Pollutant: Particulate Matter (PM)

Emission Limits: 0.18 lb/hr, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 87-A-113-P1 and 87-A-114-P1
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The owner or operator shall keep records of control equipment inspections and maintenance.
Authority for Requirements: DNR Construction Permits 87-A-113-P1 and 87-A-114-P1

NSPS and NESHAP Applicability

These units are subject to the NSPS, Subpart A, *General Provisions*, and Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, as a unit installed prior to April 28, 2008.

Authority for Requirements: DNR Construction Permits 87-A-113-P1 and 87-A-114-P1
40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 22

Stack Opening (inches, dia.): 12 x 12

Exhaust Flowrate (scfm): 2,130

Exhaust Temperature (°F): 70

Discharge Style: Horizontal

Authority for Requirements: DNR Construction Permits 87-A-113-P1 and 87-A-114-P1

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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure none occur when the emission unit on this emission point is at or near full capacity. If visible emissions are 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 visible emissions 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirements: 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 ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirements: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP10, EP-PP11

Associated Equipment

Table: Coal Silos #1 and #2

Emission Point	Emission Unit	Emission Unit Description	Control Equipment Number	Raw Material	Rated Capacity (ton/hr)	Construction Permit
EP-PP10	EU-PP10	Coal Silo #1	CE-PP10: Dust Collector	Coal and Biomass	150	87-A-115-S1
EP-PP11	EU-PP11	Coal Silo #2	CE-PP11: Dust Collector		150	87-A-116-S1

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 Limits: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permits 87-A-115-S1 and 87-A-116-S1
567 IAC 23.3(2)"d"

⁽¹⁾ 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: Particulate Matter (PM)

Emission Limits: 0.25 lb/hr, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permits 87-A-115-S1 and 87-A-116-S1
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirements: DNR Construction Permits 87-A-115-S1 and 87-A-116-S1

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 79

Stack Opening (inches): 12 x 12

Exhaust Flowrate (scfm): 2,950

Exhaust Temperature (°F): 70

Discharge Style: Horizontal

Authority for Requirements: DNR Construction Permits 87-A-115-S1 and 87-A-116-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.

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

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

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirements: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP12

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP12	Coal Silo #3	CE-PP12: Dust Collector	Coal and Biomass	300 ton/hr	87-A-117-P2

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.

BACT Emission Limits

Pollutant: Opacity

Emission Limit: No visible emissions

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988
DNR Construction Permit 87-A-117-P2

Other Emission Limits

Pollutant: Opacity

Emission Limit: 20%

Authority for Requirement: DNR Construction Permit 87-A-117-P2
40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.38 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 87-A-117-P2
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. The daily average rate of the coal and biomass receiving to Coal Silo #3 (EU-PP12) shall not exceed 120 tons per hour.
- B. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall keep the following daily records for Coal Silo #3 (EU-PP12):
- i. The number of hours that material was loaded into the silo.
 - ii. The total amount of material loaded into the silo that day.
 - iii. The daily average rate of the coal and biomass receiving to Coal Silo #3 (EU-PP12) shall be calculated by dividing the total amount of material received by this unit for a given day by the number of hours the unit operated for that day.
- B. The owner or operator shall keep records of control equipment inspections and maintenance.
- Authority for Requirement: DNR Construction Permit 87-A-117-P2

NSPS and NESHAP Applicability

This unit is subject to the NSPS, Subpart A, *General Provisions*, and Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, as a unit installed prior to April 28, 2008.

Authority for Requirement: 40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"
DNR Construction Permit 87-A-117-P2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 129

Stack Opening (inches): 24 x 24

Exhaust Flowrate (scfm): 4,460

Exhaust Temperature (°F): 70

Discharge Style: Horizontal

Authority for Requirement: DNR Construction Permit 87-A-117-P2

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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure none occur when the emission unit on this emission point is at or near full capacity. If visible emissions are 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 visible emissions 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

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 ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP13

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP13	Limestone Silo	CE-PP13: Dust Collector	Limestone	18.8 ton/hr	94-A-199-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%

Authority for Requirement: DNR Construction Permit 94-A-199-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.16 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 94-A-199-S1
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Recordkeeping 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 owner or operator shall operate, inspect, and maintain the control equipment (CE-PP13A) according to the manufacturer's specifications and instructions.
- (1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. At a minimum, this log shall include any issues identified during inspection and maintenance activities and the date each issue was resolved.

Authority for Requirement: DNR Construction Permit 94-A-199-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (feet): 110

Stack Opening (inches): 18 x 24 (rectangular)

Exhaust Flowrate (scfm): 750

Exhaust Temperature (°F): Ambient

Discharge Style: Horizontal

Authority for Requirement: DNR Construction Permit 94-A-199-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.

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

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

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP14A

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP14A	Ash Silo	CE-PP14A: Bin Vent Filter	Fly Ash	40 ton/hr ash	23-A-006-P

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.

BACT Emission Limits

Pollutant: Opacity

Emission Limit: No visible emissions

Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988
DNR Construction Permit 23-A-006-P

Other Emission Limits

Pollutant: Opacity

Emission Limits: 40%⁽¹⁾

Authority for Requirements: DNR Construction Permit 23-A-006-P
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: Particulate Matter (PM)

Emission Limits: 0.21 lb/hr, 0.1 gr/dscf

Authority for Requirements: DNR Construction Permit 23-A-006-P
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Recordkeeping 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.

Control Equipment Requirements

- A. The owner or operator shall maintain the pressure drop differential across the Bin Vent Filter (CE-PP14A) between 0.1- and 10-inches water column, based on a daily (calendar day) averaging period.

(1) The owner or operator shall collect and record the pressure drop, in inches of water column, across the Bin Vent Filter (CE-PP14A) daily. This requirement shall not apply when the Ash Silo (EU-PP14A) is not in operation.

- (2) The owner or operator shall install a pressure drop monitoring device that shall be operated and maintained according to the manufacturer's recommendations, instructions, and operating manuals.
 - (3) If the pressure drop differential falls outside the required range, the owner or operator shall record the time, date, and actions taken to correct the situation. The owner or operator shall also record when the pressure drop differential across the Bin Vent Filter (CE-PP14A) has returned within the allowed range.
- B. The owner or operator shall operate, inspect, and maintain the Bin Vent Filter (CE-PP14A) according to the manufacturer's specifications and instructions.
- (1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. At a minimum, this log shall include any issues identified during inspection and maintenance activities and the date each issue was resolved.

Authority for Requirement: DNR Construction Permit 23-A-006-P

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 123

Stack Opening, (inches, dia.): 12

Exhaust Flow Rate (scfm): 1,200

Exhaust Temperature (°F): 68

Discharge Style: Vertical unobstructed

Authority for Requirement: DNR Construction Permit 23-A-006-P

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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure none occur when the emission unit on this emission point is at or near full capacity. If visible emissions are 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 visible emissions 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

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 Requirements: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP14B

Associated Equipment

Emission Unit	Emission Unit Description	Initial Control Equipment	Final Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP14B	Ash Conveying System	CE-PP14B1: Filter Separator #1 or CE-PP14B2: Filter/Separator #2	CE-PP14B3: Final Filter	Fly Ash	22.75 tons/hr ash	96-A-1125-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 96-A-1125-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: Particulate Matter (PM)

Emission Limit: 0.42 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 96-A-1125-S1
567 IAC 23.3(2)"a"(1)

Operational Limits & Reporting/Recordkeeping 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.

Control Equipment Requirements

A. The owner or operator shall maintain the pressure drop differential across the control equipment covered by this permit [Filter/Separator #1 (CE-PP14B1), Filter/Separator #2 (CE-PP14B2), and Final Filter (CE-PP14B3)] between 0.1- and 10-inches water column, based on a daily (calendar day) averaging period.

(1) The owner or operator shall collect and record the pressure drop, in inches of water column, across the control equipment covered by this permit [Filter/Separator #1 (CE-PP14B1), Filter/Separator #2 (CE-PP14B2), and Final Filter (CE-PP14B3)] daily. This requirement shall not apply when the Ash Conveying System (EU-PP14B) is not in operation.

- (2) The owner or operator shall install a pressure drop monitoring device that shall be operated and maintained according to the manufacturer's recommendations, instructions, and operating manuals.
 - (3) If the pressure drop differential falls outside the required range, the owner or operator shall record the time, date, and actions taken to correct the situation. The owner or operator shall also record when the pressure drop differential across the control equipment covered by this permit [Filter/Separator #1 (CE-PP14B1), Filter/Separator #2 (CE-PP14B2), and Final Filter (CE-PP14B3)] has returned within the allowed range.
- B. The owner or operator shall operate, inspect, and maintain the control equipment covered by this permit [Filter/Separator #1 (CE-PP14B1), Filter/Separator #2 (CE-PP14B2), and Final Filter (CE-PP14B3)] according to the manufacturer's specifications and instructions.
- (1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment covered by this permit. At a minimum, this log shall include the following:
 - a. The date that any inspection and/or maintenance was performed on the control equipment covered by this permit;
 - i. The owner or operator shall conduct inspection activities at a minimum of once per calendar year.
 - b. Any issues identified during inspection and maintenance activities;
 - c. The date each issue was resolved; and
 - d. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 96-A-1125-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (feet): 166

Stack Opening (inches): 14

Exhaust Flowrate (scfm): 2,450

Exhaust Temperature (°F): 100

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 96-A-1125-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.

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: EP-PP14C

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP14C	Ash Silo Truck Loadout*	CE-PP14C: Dust Collector	Ash	40 ton/hr	23-A-007-P

* Uncaptured Ash Silo Truck Loadout Emissions (EU-PP38F) are also covered by this permit.

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.

PSD Emission Limits

Pollutant: Opacity

Emission Limit(s): No Visible Emissions⁽¹⁾

Authority for Requirement: DNR Construction Permit 23-A-007-P

PSD permit issued by the Environmental Protection Agency (EPA)
on June 9, 1987 (later amended on January 19, 1988)

⁽¹⁾Limits applies at all times, including during control device startup, maintenance, and malfunction.

EP-PP14C Only

Pollutant: Opacity

Emission Limit(s): 40%⁽¹⁾

Authority for Requirement: DNR Construction Permit 23-A-007-P
567 IAC 23.3(2)"a"(1)

⁽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: Particulate Matter (PM)

Emission Limit(s): 0.17 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 23-A-007-P
567 IAC 23.3(2)"a"(1)

EU-PP38F Only

Pollutant: Opacity

Emission Limit: See Footnote 1

Authority for Requirement: DNR Construction Permit 23-A-007-P
567 IAC 23.3(2)"c"

⁽¹⁾The owner or operator shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property.

Operational Limits & Reporting/Recordkeeping 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.

Control Equipment Requirements

- A. The owner or operator shall maintain the pressure drop differential across the Dust Collector (CE-PP14C) between 0.1- and 10-inches water column, based on a daily (calendar day) averaging period.
 - (1) The owner or operator shall collect and record the pressure drop, in inches of water column, across the Dust Collector (CE-PP14C) daily. This requirement shall not apply when the Ash Silo Truck Loadout (EU-PP14C) is not in operation.
 - (2) The owner or operator shall install a pressure drop monitoring device that shall be operated and maintained according to the manufacturer's recommendations, instructions, and operating manuals.
 - (3) If the pressure drop differential falls outside the required range, the owner or operator shall record the time, date, and actions taken to correct the situation. The owner or operator shall also record when the pressure drop differential across the Dust Collector (CE-PP14C) has returned within the allowed range.
- B. The owner or operator shall operate, inspect, and maintain the control equipment covered by this permit according to the manufacturer's specifications and instructions.
 - (1) The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment covered by this permit. At a minimum, this log shall include the following:
 - a. The date that any inspection and/or maintenance was performed on the control equipment covered by this permit;
 - i. The owner or operator shall conduct inspection activities at a minimum of once per calendar year.
 - b. Any issues identified during inspection and maintenance activities;
 - c. The date each issue was resolved; and
 - d. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 23-A-007-P

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft., from the ground): 26

Stack Opening, (inches, dia.): 5

Exhaust Flow Rate (scfm): 450

Exhaust Temperature (°F): 68

Discharge Style: Vertical unobstructed

Authority for Requirement: DNR Construction Permit 23-A-007-P

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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure none occur when the emission unit on this emission point is at or near full capacity. If visible emissions are 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 visible emissions 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

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: EP-PP28 (Fugitive)

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EU-PP28	Coal Unloading Pit	Coal	300 ton/hr	87-A-120

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

Pollutant: Fugitive Dust

Emission Limits: Attainment and Unclassified Areas – 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, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. 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.

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.

NSPS and NESHAP Applicability

This emission unit is subject to Subparts A (*General Provisions*, 40 CFR Part 60.1 – 40 CFR Part 60.19) and Y (*Standards of Performance for Coal Preparation and Processing Plants* 40 CFR Part 60.250 – 40 CFR Part 60.258) of the New Source Performance Standards (NSPS).

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

Monitoring Requirements

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

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure that none occur when the emission unit on this emission point is at or near full capacity. 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 observation of the violation.

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 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

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: EP-PP30

Associated Equipment

Table: Coal and Biomass Processing

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity (ton/hr)	Construction Permit
EU-PP30	Minibunker 11	CE-PP24: Baghouse	Coal and Biomass	50.0	95-A-439-S1
EU-PP31	Coal Crusher #3			50.0	
EU-PP32	Coal Crusher #4			50.0	

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: 0%

Authority for Requirement: DNR Construction Permit 95-A-439-S1

Pollutant: Opacity

Emission Limit: 20%

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

Pollutant: Particulate Matter (PM)

Emission Limit: 0.02 gr/dscf, 0.17 lb/hr

Authority for Requirement: DNR Construction Permit 95-A-439-S1
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permit 95-A-439-S1

NSPS and NESHAP Applicability

This unit is subject to the NSPS, Subpart A, *General Provisions*, and Subpart Y, *Standards of Performance for Coal Preparation and Processing Plants*, as a unit installed prior to April 28, 2008.

Authority for Requirement: 40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"
DNR Construction Permit 95-A-439-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height, (feet): 98

Stack Opening, (inches): 10

Exhaust Flowrate (scfm): 1,000

Exhaust Temperature (°F): 70

Discharge Style: Horizontal

Authority for Requirement: DNR Construction Permit 95-A-439-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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure that none occur when the emission unit on this emission point is at or near full capacity. 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 (> 0 %) is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from observation of the violation.

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 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

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

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

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: See Table: Conveyor Enclosures

Associated Equipment

Table: Conveyor Enclosures

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity (ton/hr)	Construction Permit
EP-PP48	EU-PP48	South Conveyor Enclosure	CE-PP48: Baghouse	Coal and Biomass	52.5	12-A-455-S1
EP-PP49	EU-PP49	Transfer Conveyor Enclosure	CE-PP49: Baghouse		52.5	12-A-456-S1
EP-PP50	EU-PP50	Conveyor Discharge Enclosure	CE-PP50: Baghouse		27	12-A-457-S1

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.

Table: Conveyor Enclosures – Emission Limits

Emission Point	Emission Unit	Opacity Limit 567 IAC 23.1(2)"v"	PM ₁₀ Limit (lb/hr)	PM Limit (lb/hr)	PM Limit (gr/dscf) 567 IAC 23.1(2)"v"	Authority for Requirements
EP-PP48	EU-PP48	10%	0.012	0.06	0.010	12-A-455-S1
EP-PP49	EU-PP49	10%	0.012	0.06	0.010	12-A-456-S1
EP-PP50	EU-PP50	10%	0.027	0.14	0.010	12-A-457-S1

Operational Limits & Requirements

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

A. The throughput of each emission unit shall not exceed 17 tons/hr.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The owner or operator shall maintain a logbook with the following information:

- The date,
- The total throughput (in tons) for these emission units for the day,
- The hours of operation for each of these emission units for the day, and
- The average hourly throughput (in tons/hr) for each of these emission units for the day.

B. Per 40 CFR §60.258(a), the owner or operator shall maintain a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the

following:

- (1) The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted.
- (2) The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.
- (3) The amount and type of coal processed each calendar month.
- (4) The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

C. The owner or operator shall meet all other applicable recordkeeping and reporting requirements under NSPS Subparts A and Y not specified in this permit.

Authority for Requirements: DNR Construction Permits 12-A-455-S1, 12-A-456-S1, and 12-A-457-S1
40 CFR Part 60 Subpart Y
567 IAC 23.1(2)"v"

NSPS and NESHAP Applicability

These emission units are subject to Subparts A (*General Provisions*; 40 CFR §60.1 – 40 CFR §60.19) and Y (Standards of Performance for *Coal Preparation Plants*; 40 CFR §60.250 – 40 CFR §60.258) of the New Source Performance Standards (NSPS).

Authority for Requirement: DNR Construction Permits 12-A-455-S1, 12-A-456-S1, and 12-A-457-S1
40 CFR Part 60 Subpart Y
567 IAC 23.1(2)"v"

Emission Point Characteristics

These emission points shall conform to the conditions listed below.

Emission Point	Emission Unit	Construction Permit	Stack Characteristics				
			Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-PP48	EU-PP48	12-A-455-S1	17	7	700	Ambient	Vertical Unobstructed
EP-PP49	EU-PP49	12-A-456-S1	61	7	700	Ambient	Vertical Unobstructed
EP-PP50	EU-PP50	12-A-457-S1	74	10	1,600	Ambient	Vertical Unobstructed

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.

Opacity Monitoring

Visible emissions shall be observed on a weekly basis to ensure there are none when the emission unit on this emission point is at or near full capacity. 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 >10 % is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from observation of the violation.

If weather conditions prevent the observer from conducting an observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirements: 567 IAC 22.108(14)

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

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

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP40

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP40	Biomass Silo	CE-PP40: Dust Collector	Oat Hulls	25.00 ton/hr	03-A-1149-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 03-A-1149-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 (PM₁₀)

Emission Limit: 0.15 lb/hr

Authority for Requirement: DNR Construction Permit 03-A-1149-S1

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 03-A-1149-S1
567 IAC 23.4(7)

Operational Limits & Requirements

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

1. The owner or operator shall inspect and maintain the dust collector according to manufacturer's recommendations.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and maintenance.
Authority for Requirement: DNR Construction Permit 03-A-1149-S1

Emission Point Characteristics

This emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 80.5

Stack Opening, (inches): 12 x 12*

Exhaust Flowrate (scfm): 1,695

Exhaust Temperature (°F): Ambient

Discharge Style: Horizontal

Authority for Requirement: DNR Construction Permit 03-A-1149-S1

* The facility has indicated that the stack opening is 10" x 10". The facility may submit a construction permit application to correct this.

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 ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP41

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-PP41A	Biomass Unloading/Conveying	CE-PP41: Dust Collector	Oat Hulls	25 ton/hr	03-A-1150-S1

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 Limits: 40% ⁽¹⁾

Authority for Requirement: DNR Construction Permit 03-A-1150-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 (PM₁₀)

Emission Limits: 0.15 lb/hr

Authority for Requirement: DNR Construction Permit 03-A-1150-S1

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 03-A-1150-S1
567 IAC 23.4(7)

Operational Limits & Requirements

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

1. The owner or operator shall inspect and maintain the dust collector according to manufacturer's recommendations.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The owner or operator shall keep records of control equipment inspections and maintenance.
- Authority for Requirement: DNR Construction Permit 03-A-1150-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 72

Stack Opening, (inches, dia.): 8 inch
Exhaust Flowrate (scfm): 1695
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical, Unobstructed
Authority for Requirement: DNR Construction Permit 03-A-1150-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.

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

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐
This applies to EP-PP41 dust collector CE-PP41

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP-PP42

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EP-PP41A-FUG	Biomass Unloading Fugitive	Oat Hulls	NA	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 Limits: Attainment and Unclassified Areas – 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, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. 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.

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

Operational Limits & Reporting/Recordkeeping 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.

There are no operational 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: EP-239-4

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-239-DCR-1	Hurst Biomass Fuel Unloading	CE-239-2: Baghouse	Biomass	28.0 ton/hr	11-A-666

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 11-A-666
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 (PM₁₀)

Emission Limit: 0.60 lb/hr

Authority for Requirement: DNR Construction Permit 11-A-666

Pollutant: Particulate Matter (PM)

Emission Limit: 0.60 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 11-A-666
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

1. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.
2. The owner or operator shall maintain the pressure drop across the baghouse between 0.1 inches of water and 4 inches of water.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The permittee shall maintain records on the maintenance performed on the fabric filter baghouse.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual(s). The permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 11-A-666

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 40

Stack Opening, (inches, dia.): 28*

Exhaust Flowrate (scfm): 14,000

Exhaust Temperature (°F): 70

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 11-A-666

⁽¹⁾ The facility has indicated that the stack opening is 14 in. The facility may submit a construction permit application to correct this.

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: EP-239-5

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EU-239-DRC-2	Ag Fuel Storage Bin	CE-239-3: Baghouse	Biomass	1,000 bushels/hr, 3.5 ton/hr	11-A-665

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 11-A-665
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 (PM₁₀)

Emission Limit: 0.14 lb/hr

Authority for Requirement: DNR Construction Permit 11-A-665

Pollutant: Particulate Matter (PM)

Emission Limit: 0.14 lb/hr, 0.1 gr/dscf

Authority for Requirement: DNR Construction Permit 11-A-665
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

1. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.
2. The owner or operator shall maintain the pressure drop across the baghouse between 0.1 inches of water and 5 inches of water.

Authority for Requirement: DNR Construction Permit 11-A-665

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

1. The permittee shall maintain records on the maintenance performed on the fabric filter baghouse.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manual(s). The permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 11-A-665

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 32

Stack Opening, (inches, dia.): 14

Exhaust Flowrate (scfm): 3,200

Exhaust Temperature (°F): 70

Discharge Style: Vertical, Unobstructed

Authority for Requirement: DNR Construction Permit 11-A-665

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: EP-PP53 and EP-PP54

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP-PP53	EU-PP53	Dry Sorbent Injection Silo #1	CE-PP53: Bin Vent Filters	Sorbent	41.15 ton/hr	15-A-283
EP-PP54	EU-PP54	Dry Sorbent Injection Silo #2	CE-PP54: Bin Vent Filters	Sorbent	41.15 ton/hr	15-A-284

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 Limits: 40% ⁽¹⁾

Authority for Requirements: DNR Construction Permit 15-A-283 and 15-A-284
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: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: DNR Construction Permit 15-A-283 and 15-A-284
567 IAC 23.3(2)"a"

Operational Limits & Requirements

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

- A. Operate and maintain the control equipment (CE-PP53 and CE-PP54) according to the manufacturer's specifications.

Reporting and Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. Record any maintenance and repair activities performed on the control equipment (CE-PP53 and CE-PP54).

Authority for Requirements: DNR Construction Permits 15-A-283 and 15-A-284

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Dry Sorbent Injection Silos– Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-PP53	EU-PP53	78.5	8	800	Ambient	Vertical Unobstructed
EP-PP54	EU-PP54	78.5	8	800	Ambient	Vertical Unobstructed

Authority for Requirements: DNR Construction Permits 15-A-283 and 15-A-284

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: EP-185-3 and EP-185-4

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP-185-3	EU-185-LIME-2	North Lime Bin	CE-185-2: Bin Vent Filters	Calcium Oxide Dust	11 ton/hr	19-A-700
EP-185-4	EU-185-LIME-3	South Lime Bin	CE-185-3: Bin Vent Filters		11 ton/hr	19-A-701

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 Limits: No Visible Emissions (No VE)

Authority for Requirements: DNR Construction Permit 19-A-700 and 19-A-701
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM₁₀)

Emission Limits: 0.077 lb/hr

Authority for Requirements: DNR Construction Permit 19-A-700 and 19-A-701

Pollutant: Particulate Matter (PM)

Emission Limits: 0.1 gr/dscf

Authority for Requirements: DNR Construction Permit 19-A-700 and 19-A-701
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Recordkeeping 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 Baghouses (CE 185-2 and CE 185-3) shall be operated and maintained according to the manufacturer's specifications. The owner or operator shall:

- (1) Keep a log of all maintenance and inspection activities performed on the Baghouses (CE 185-2 and CE 185-3). This log shall include, but is not necessarily limited to:
 - The date and time any inspection and/or maintenance was performed on the Baghouses (CE 185-2 and CE 185-3).
 - Any issues identified during the inspection;
 - Any issues addressed during the maintenance activities; and
 - Identification of the staff member performing the maintenance or inspection.

Authority for Requirements: DNR Construction Permit 19-A-700 and 19-A-701

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Table: Lime Bins– Emission Point Characteristics

Emission Point	Emission Unit	Stack Characteristics				
		Height (feet)	Dimensions (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-185-3	EU-185-LIME-2	36	7 x 5.625	900	70	Vertical Unobstructed
EP-185-4	EU-185-LIME-3	36	7 x 5.625	900	70	Vertical Unobstructed

Authority for Requirements: DNR Construction Permits 19-A-700 and 19-A-701

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.

Opacity Monitoring

Visible emissions shall be observed during each receiving event to ensure none occur when the emission unit on this emission point is at or near full capacity. If visible emissions are 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 visible emissions 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.

Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

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)

VII. 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 C.

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), recordkeeping, 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 except 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 3

1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 5

6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 725-0268

Polk County Public Works Dept.

Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Field Office 2

2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 4

1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 6

1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Linn County Public Health

Air Quality Branch
1020 6th Street SE
Cedar Rapids, IA 52401
(319) 892-6000

VIII. Appendix A – Links to NSPS/NESHAP Regulations

- A. 40 CFR 60 Subpart A – *General Provisions*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-A>
- B. 40 CFR 60 Subpart Db – Standards of Performance for *Industrial-Commercial-Institutional Steam Generating Units*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-Db>
- C. 40 CFR 60 Subpart Dc – Standards of Performance for *Small Industrial Commercial Institutional Steam Generating Units*.
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-Dc>
- D. 40 CFR 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>
- E. 40 CFR 60 Subpart IIII - Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-IIII>
- F. 40 CFR 60 Subpart JJJJ - Standards of Performance for *Stationary Spark Compression Ignition Internal Combustion Engines*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-JJJJ>
- G. 40 CFR 63 Subpart A – *General Provisions*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-A>
- H. 40 CFR 63 Subpart GGG - National Emission Standards for Hazardous Air Pollutants for *Pharmaceuticals Production*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-GGG>
- I. 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>
- J. 40 CFR 63 Subpart DDDDD – National Emission Standard for Hazardous Air Pollutants for *Industrial, Commercial, and Institutional Boilers and Process Heaters*
<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-DDDDD>

Appendix B - PAL Regulations for Reopening, Renewal, Expiration, and Increasing the PAL Level During the PAL Effective Period

PAL Public Participation

Per 40 CFR §52.21(aa)(5), the PAL shall be established, renewed, or increased through a procedure that is consistent with 40 CFR §51.160 and 40 CFR §51.161. This includes the requirement that the Department provide the public with notice of the proposed approval of a PAL permit and at least a thirty (30) day period for submittal of public comments. The Department must address all material comments before taking final action on the permit.

PAL Reopening

- A. Per 40 CFR §52.21(aa)(8)(ii)(a), the Department is required to reopen the PAL permit during the effective period to:
 - (1) Correct typographical and calculation errors made in setting the PAL or to reflect a more accurate determination of emissions used to establish the PAL;
 - (2) Reduce the PAL if the owner or operator of the major stationary source creates creditable emission reductions for use as offsets under 40 CFR §51.165(a)(3)(ii); and
 - (3) Revise the PAL to reflect an increase in the PAL as provided under 40 CFR §52.21(aa)(11).
- B. Per 40 CFR §52.21(aa)(8)(ii)(b), the Department shall have discretion to reopen the PAL permit during the effective period to:
 - (1) Reduce the PAL to reflect newly applicable Federal requirements with compliance dates after the PAL effective date;
 - (2) Reduce the PAL consistent with any requirement, that is enforceable as a practical matter, and the Department may impose on the major stationary source under the State Implementation Plan (SIP); and
 - (3) Reduce the PAL if the reviewing authority determines that a reduction is necessary to avoid causing or contributing to a National Ambient Air Quality Standards (NAAQS) or PSD increment violation, or to an adverse impact on an air quality related value that has been identified for a Federal Class I area by a Federal Land Manager and for which information is available to the general public.
- C. In order to keep the list of equipment, recordkeeping, and monitoring requirements up to date this permit shall be amended under the following conditions:
 - (1) *Installation of Major Emissions Units:* Within ninety (90) days of commencing construction of a major emission unit(s) (as defined in 40 CFR § 52.21(aa)(2)) the owner or operator shall apply to have this permit amended to add the major emission unit(s) and its recordkeeping and monitoring requirements.
 - (2) *Installation of Significant Emissions Units:* Within sixty (60) days of the beginning of each calendar year the owner or operator shall apply to have this permit amended to add any significant emission unit(s) (as defined in 40 CFR § 52.21(aa)(2)) installed within the previous year. The permit shall be updated to add not only the significant emission unit(s), but also the required recordkeeping and monitoring.

- (3) *Installation of Small Emissions Units:* Upon any reopening of this permit all new small emission unit(s) (as defined in 40 CFR § 52.21(aa)(2)) installed since the last permit issuance, and the recordkeeping and monitoring requirements shall be added. Until that time, the facility shall keep records detailing the emission unit number, capacity, and installation date of each new unit available for inspection, and the recordkeeping and monitoring requirements shall follow the requirements of the existing sources that are of the same type as the new unit(s). If there are no similar existing sources, the facility shall submit within ninety (90) days of commencing construction a report to the Department for approval detailing the unit emissions and planned recordkeeping and monitoring.
- D. Per 40 CFR §52.21(aa)(8)(ii)(c), all reopenings of this permit, except for those listed in Condition A.(1) above, shall be carried out in accordance with the Public Participation requirements above.

PAL Renewal

Per 40 CFR §52.21(aa)(10)(i), the Department shall follow the procedures specified in Condition 10 of this permit in approving any request to renew this permit. The Department shall provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comment. During the public review, any person may propose a PAL level for the source for consideration by the Department.

Per 40 CFR §52.21(aa)(10)(ii), the owner or operator shall submit a timely application to the Department to request renewal of the PAL permit. A timely application is one that is submitted at least six (6) months prior to, but not earlier than eighteen (18) months from, the date of the permit expiration. The expiration date of this permit is listed on the cover page. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed. If the owner or operator submits a complete application to renew the PAL permit within this time period, then the PAL permit shall continue to be effective until the revised permit with the renewed limit is issued.

A. PAL Renewal Application Requirements:

Per 40 CFR §52.21(aa)(10)(iii), the application to renew the PAL permit shall contain the following information:

- (1) A list of all emission units at the source. Each unit shall be designated as small, significant, or major based on their potential-to-emit (PTE). In addition, the owner or operator shall indicate which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit.
- (2) Calculations of the baseline actual emissions along with supporting documentation. Baseline actual emissions are to include emissions associated not only with the operation of the unit, but also emissions associated with startup, shutdown, and malfunction (SSM).
- (3) The calculation procedures that the owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a twelve (12) month rolling total for each month as required by 40 CFR §52.21(aa)(13)(i).
- (4) A proposed PAL level.
- (5) The sum of the PTE of all emission units under the PAL along with supporting documentation.

(6) Any other information the owner or operator wishes the Department to consider in determining the appropriate level for renewing the PAL permit.

B. PAL Adjustment:

Per 40 CFR §52.21(aa)(10)(iv), the following methodologies shall be used in determining whether and how to adjust the PAL level:

- (1) If the emissions level calculated in accordance with 40 CFR §52.21(aa)(6) is equal to or greater than eighty percent (80%) of the PAL level, the Department may renew the PAL at the same level without considering factors set forth in Condition 12.B.(2) of this permit.
- (2) The Department may set the PAL at a level that is determined to be more representative of the baseline actual emissions of the source or that the Department determines to be more appropriate considering:
 - Air quality needs,
 - Advances in control technology,
 - Anticipated economic growth in the area,
 - Desire to reward or encourage voluntary emission reductions at the source, or
 - Other factors as specifically identified by the Department in its written rationale.
- (3) Notwithstanding Conditions A.(1) and B.(2) above:
 - (a) If the PTE of the major stationary source is less than the PAL, the Department shall adjust the PAL to a level no greater than the PTE of the source, and
 - (b) The Department shall not approve a renewed PAL level higher than the current PAL, unless the major stationary source has complied with the provisions of Condition 14 (Increasing a PAL During the PAL Effective Period).

Under no circumstances shall any adjustment to the PAL level fail to comply with Condition B.(3) above.

PAL Expiration

Per 40 CFR §52.21(aa)(9), any PAL permit that is not renewed in accordance with the procedures in Condition 12 of this permit shall expire at the end of the PAL effective period and the following requirements shall apply:

- A. Each emission unit or each group of emission units that existed under the PAL shall comply with an allowable emission limitation under a construction permit established according to the following procedures:
 - (1) Within the time frame specified for PAL renewals (See PAL Renewal above), the major stationary source shall submit a proposed allowable emission limitation for each emission unit (or group of emission units, if such distribution is more appropriate as decided by the Department) by distributing the PAL allowable emissions for the major stationary source among each of the emission units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period such distribution shall be made as if the PAL had been adjusted.
 - (2) The Department shall decide whether and how the PAL allowable emissions will be distributed and issue construction permits incorporating allowable limits for each emission unit or each group of emission units as the Department determines appropriate.
- B. Each emission unit(s) shall comply with the allowable emission limitation on a twelve (12)

month rolling basis through monitoring as approved by the Department.

- C. Until the Department issues the necessary construction permits incorporating allowable limits for each emission unit or each group of emission units the major stationary source shall continue to comply with a source-wide, multi-unit emissions cap equivalent to the level of the PAL emission limitation contained in the PAL Emission Limits section. Any physical change or change in the method of operation at the major stationary source will be subject to major NSR requirements if such change meets the definition of major modification in 567 IAC 33.3(1).
- D. Any physical change or change in the method of operation at the major stationary source will be subject to major NSR requirements if such change meets the definition of major modification in 567 IAC 33.3(1).
- E. The owner or operator shall continue to comply with any State or Federal applicable requirements (BACT, RACT, NSPS, NESHAP, etc.) that may have applied either during the PAL effective period or prior to the PAL effective period except for those emission limitations that had been established pursuant to 567 IAC 33.3(18)"b", but were eliminated by the PAL in accordance with the provisions of 40 CFR §52.21(aa)(1)(ii)(c).

Increasing the PAL Level During the PAL Effective Period

- A. Per 40 CFR §52.21(aa)(11)(i), the Department may increase the PAL emission limitation only if the major stationary source complies with the following provisions:
 - (1) The owner or operator shall submit a complete application to request an increase in the PAL limit for a PAL major modification.
 - (2) The application shall:
 - (a) Identify the emission unit(s) contributing to the increase in emissions so as to cause the major stationary source emissions to equal or exceed its PAL.
 - (b) Demonstrate that the sum of the baseline actual emissions of the small emission units assuming application of BACT equivalent controls plus the sum of the allowable emissions of the new or modified emission unit(s) exceeds the PAL.
 - (c) Determine the level of control that would result from BACT equivalent controls on each significant or major emission unit by conducting a new best available control technology (BACT) analysis at the time the application is submitted unless the emission unit is currently required to comply with a BACT or lowest achievable emission rate (LAER) requirement that was established within the preceding ten (10) years. In such a case, the assumed control level for that emission unit shall be equal to the level of BACT or LAER with which that emission unit must currently comply.
 - (3) The owner or operator shall obtain a major NSR permit for all emission units identified in Condition 14.B.(1) of this permit regardless of the magnitude of the emission increase resulting from the unit(s). These emission units shall comply with any emission requirements resulting from the major NSR process (e.g. BACT) even though the unit(s) has also become subject to the PAL or continue to be subject to the PAL.
 - (4) The PAL permit shall require the increased PAL level to be effective on the day any emission unit(s) that is part of the PAL major modification becomes operational and begins to emit the PAL pollutant.
- B. Per 40 CFR §52.21(aa)(11)(ii), the Department shall calculate the new PAL as the sum of the allowable emissions for each modified or new emission unit plus the sum of the baseline

actual emissions of the significant and major emission units assuming application of BACT equivalent controls as determined in accordance with Condition A.(2)(b) and A.(2)(c) above plus the sum of the baseline actual emissions of the small emission units.

- C. The PAL permit shall be revised to reflect the increased PAL level pursuant to the public notice requirements.

Authority for Requirements: 40 CFR §52.21(aa)

DNR Construction Permit 16-A-043-PAL1

DNR Construction Permit 16-A-044-PAL

DNR Construction Permit 16-A-045-PAL1

DNR Construction Permit 16-A-046-PAL1

DNR Construction Permit 16-A-047-PAL1

DNR Construction Permit 16-A-048-PAL

DNR Construction Permit 16-A-049-PAL

Appendix C – 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 (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)
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

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
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
22.130	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

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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

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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

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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

34.306	N/A	Hg allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
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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