Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: University of Iowa
Facility Location: 105 Jessup Hall
Iowa City, Iowa 52242-1316

Air Quality Operating Permit Number: 00-TV-002R2-M001
Expiration Date: January 19, 2020
Permit Renewal Application Deadline: July 19, 2019

EIQ Number: 92-6571
Facility File Number: 52-01-005

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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

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Lori Hanson, Supervisor of Air Operating Permits Section Date

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Abbreviations

acfm.....actual cubic feet per minute
bhp……..brake horse power
CFR.....Code of Federal Regulations
CE .....control equipment
CEM.....continuous emissions monitor
^{o}F .....degrees Fahrenheit
EIQ.....emissions inventory questionnaire
EP.....emission point
EU .....emission unit
gph……..gallons per hour
gr./dscf .....grains per dry standard cubic foot
gr./100 cf .....grains per one hundred cubic feet
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
MVAC.....motor vehicle air conditioner
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
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-002R2-M001

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five (5) years.
Commencing on: January 20, 2015
Ending on: January 29, 2020

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

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

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

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

Particulate Matter:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed 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 Table I, 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"

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40 CFR 60 Subpart A Requirements

This facility is an affected source and these General Provisions apply to the facility. The affected units are shown in the table below.

EU-PP03	EU-PP04	EU-PP07	EU-PP12	EU-090-GEN-1
EU-125-GEN-1	EU-PP08	EU-PP09	EU-PP50	EU-PP28
EU-PP30	EU-PP48	EU-PP49	EU-PP52.1	EU-239-BLR-5 (Hurst Boiler #5)
EU-PP43	EU-PP44	EU-18	EU-239-GEN-2	EU-PP52.2
EU-PP52.3	EU-PP52.4	EU-003-GEN-3	EU-272-GEN-1	EU-042-GEN-1
EU-075-GEN-1	EU-212-GEN-1	EU-455-GEN-1	EU48-1	EU-290-GEN-1
EU-374-GEN-2	EU-435-GEN-2	EU-188-GEN-1	EU-274-GEN-2	EU-49-1
EU-52-1	EU-046-GEN-2,	EU-037-GEN-1	EU-057-GEN-1	EU-308-GEN-1
EU-275-GEN-1	EU-391-GEN-2	EU-330-GEN-1	EU-51-1	EU-068-GEN-1
EU-069-GEN-1	EU-072-GEN-1	EU64-GEN-1	EU-046-GEN-3	EU61-GEN-1

EU62-GEN-1	EP63-GEN-1	EU-240-GEN-1	EU-240-GEN-2	EU-120-GEN-1
EU-391-GEN-3	EU-418-GEN-2	EU-239-GEN-2		

See Appendix 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-PP48, EU-PP49, and EU-PP50.
See Appendix 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, and EU-PP07.
See Appendix 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 for a link to the Standard.
Authority for Requirements: 40 CFR 60 Subpart Dc
567 IAC 23.1(2) "lll"

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-239-GEN-2	EU-042-GEN-1,	EU62-GEN-1	EP63-GEN-1
EU64-GEN-1	EU-075-GEN-1	EU-212-GEN-1	EU-290-GEN-1	EU-374-GEN-2
EU-435-GEN-2	EU-455-GEN-1	EU48-1	EU-49-1	EU52-1
EU-046-GEN-2	EU-188-GEN-1	EU-274-GEN-2	EU-308-GEN-1	

Applicable subpart IIII requirements are incorporated into the Emission-Point Specific Conditions Section.
See Appendix 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-090-GEN-1	EU-125-GEN-1	EU-275-GEN-1	EU-391-GEN-2	EU-037-GEN-1
EU-057-GEN-1	EU-068-GEN-1	EU-069-GEN-1	EU-072-GEN-1	EU-272-GEN-1
EU-330-GEN-1	EU51-1	EU61-GEN-1	EU-046-GEN-3	EU-120-GEN-1
EU-391-GEN-3	EU-418-GEN-2			

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 for a link to the Standard.
Authority for Requirements: 40 CFR 50 Subpart JJJJ
567 IAC 23.1(2) "zzz"

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, and EU-006-TAB-7 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 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 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 for a link to the Standard.
Authority for Requirements: 40 CFR 63 Subpart DDDDD

EU-300-BLR-1	EU-434-BLR-1	EU-457-WH-1	OD#4 Boiler	PP06
EU-300-BLR-2	EU-434-BLR-2	EU-457-WH-2	EU-239-BLR-5	PP07
EU-391-BLR-1	EU-434-BLR-3	EU-478-BLR-1	EU-239-GSFR-1	PP43
EU-391-BLR-1	EU-434-BLR-5	OD#2 Boiler	PP03	PP44
EU-391-BLR-2	EU-441-BLR-1	OD#3 Boiler	PP04	18
EU-391-BLR-3	EU-441-BLR-2			

See Appendix B for the EPA Region VII Compliance Extension

Plant-wide Applicability Limit (PAL) Requirements

See Appendix C 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 level 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-PAL ($PM_{2.5}$ PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 97.72 tons/yr [(1) (2)]
Authority for Requirement: DNR Construction Permit 16-A-046-PAL (PM_{10} 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-PAL (PM PAL)
567 IAC 33.9
40 CFR §52.21(aa)(4)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 1602.97 tons/yr [(1) (2)]
Authority for Requirement: DNR Construction Permit 16-A-048-PAL (SO_2 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-PAL (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, PM_{10}, 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-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
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-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-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-042-1	EU-042-GEN-1	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-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-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-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-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-160-9	EU-160-RH-9	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-9	EU-160-RH-10	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-10	EU-160-RH-11	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-11	EU-160-FUR-1	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-12	EU-160-FUR-2	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-13	EU-160-FUR-3	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-14	EU-160-FUR-4	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-15	EU-160-UH-1	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-16	EU-160-UH-2	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-17	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-FUR-1	HSC Gas Furnace 1	Hours of operation or fuel usage
EP-165-2	EU-165-FUR-2	HSC Gas Furnace 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-185-1	EU-185-LIME-1	Water Plant Lime Conveying System	Material usage or hours of operation
EP-185-2	EU-185-GEN-1	Water Plant Generator	Hours of operation or fuel usage or kW
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
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-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-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	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	Hours of operation or fuel usage
EP-391-5	EU-391-BLR-3	Mayflower Boiler	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	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	Hours of operation or fuel usage
EP-434-5	EU-434-BLR-3	Hot Water Boiler	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	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
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-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-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-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-478-1	EU-478-BLR-1	RRH Boiler	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-490-11	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 [4, 7]
*EP-490-21	EU-490-GLAZE-1	Glazing Area within Ceramics DC System	Hours of operation [4, 7]
*EP-490-22	EU-490-MIX-1	Clay Mixing Area within Ceramics DC System	Hours of operation [4, 7]
*EP-490-23	EU-490-MTL-4	Metals Electroplating	Hours of operation [4, 7]
*EP-490-24	EU-490-PLASTIC-1	Ceramic Shell within Sculpture DC System	Hours of operation[4, 7]
*EP-490-25	EU-490-PNT-3	Printmaking Spray Booth	Hours of operation [4, 7]
*EP-490-26	EU-490-PNT-4	Metals Spray Booth (Benchtop)	Hours of operation [4, 7]
*EP-490-27	EU-490-PNT-5	Performing Arts Paint Booth (Walk-in)	Hours of operation [4, 7]
*EP-490-28	EU-490-PNT-6	Art Paint Booth (Walk-in)	Hours of operation [4, 7]
*EP-490-29	EU-490-PNT-7	Glazed Spray Booth (Ceramics Benchtop Spray Booth)	hours of operation [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-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 2080 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 Requirement: DNR Construction Permit 16-A-047-PAL ($PM_{2.5}$ PAL)
DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

*These units have been removed since the PALs were issued March 24, 2016.

The small emission units listed below have been added at the facility and monitoring is required in accordance with the $PM_{2.5}$, PM_{10}, and PM PAL permits.

EP ID	EU ID	EU Description	Monitoring Requirements [1, 3, 5, 6]
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-090-2	EU-090-PNT-1	Woodshop Paint Booth	Material usage or hours of operation [4, 7]
EP-090-3	EU-090-SMELT-1	Crucible / Forge Furnaces	Hours of operation or fuel usage [4, 7]
EP-090-4	EU-090-PLASTIC-1	Ceramic Shell	Hours of operation [4, 7]
EP-090-5	EU-090-PNT-2	Ceramics Paint Booth	Material usage or house of operation [4, 7]
EP-090-6	EU-090-MIX-1	Clay Mixers	Hours of operation [4, 7]
EP-090-7	EU-090-PNT-3	Metals Benchtop Paint Booth	Material usage or house of operation [4, 7]
EP-090-8	EU-090-PNT-4	Printmaking Paint Booth	Material usage or house of operation [4, 7]
EP-090-9	EU-090-PNT-5	Shared Spaces Paint Booth	Material usage or house of operation [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-441-17	EU-441-BLR-3	Laundry Building Boiler #3	Fuel usage or hours of operation

[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 2080 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 Requirement: 567 IAC 22.108(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-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-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-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-160-11	EU-160-FUR-1	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-12	EU-160-FUR-2	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-13	EU-160-FUR-3	MSSB Gas Furnace	Fuel usage or hours of operation
EP-160-14	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-160-9	EU-160-RH-10	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-10	EU-160-RH-11	MSSB Radiant Heater	Fuel usage or hours of operation
EP-160-15	EU-160-UH-1	MSSB Unit Heater	Fuel usage or hours of operation
EP-160-16	EU-160-UH-2	MSSB Unit Heater	Fuel usage or hours of operation
EP-160-17	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-FUR1	HSC Gas Furnace 1	Fuel usage or hours of operation
EP-165-2	EU-165-FUR-2	HSC Gas Furnace 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-185-3	EU-185-AST-1	Water Plant Generator Fuel Tank	Material usage [3]
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]
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	ITC 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	Law Library Furnace	Fuel usage or hours of operation
EP-317-2	EU-317-RH-1	Law Library 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-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	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-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	Fuel usage or hours of operation
EP-434-3	EU-434-BLR-2	Hot Water Boiler	Fuel usage or hours of operation
EP-434-5	EU-434-BLR-3	Hot Water Boiler	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-436-6	EU-436-UH-6	Unit Heater	Fuel usage or hours of operation
EP-436-7	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-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-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-462-2	EU-462-FUR-1	Furnace	Fuel usage or hours of operation
EP-462-1	EU-462-WH-1	Water Heater	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-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]
*EU-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 2080 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 Requirement: 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 and 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-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-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-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-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-441-17	EU-441-BLR-3	Laundry Building Boiler #3	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 2080 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 Requirement: 567 IAC 22.108(14)

Monitoring Requirements for SO_2, 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] SO_2, NO_x, and CO

[6] SO2 and NOx only

[7] CO only

Significant Emission Units – NOx 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-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-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-042-1	EU-042-GEN-1	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-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-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-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-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-160-9	EU-160-RH-9	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-9	EU-160-RH-10	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-10	EU-160-RH-11	MSSB Radiant Heater	Hours of operation or fuel usage
EP-160-11	EU-160-FUR-1	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-12	EU-160-FUR-2	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-13	EU-160-FUR-3	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-14	EU-160-FUR-4	MSSB Gas Furnace	Hours of operation or fuel usage
EP-160-15	EU-160-UH-1	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-16	EU-160-UH-2	MSSB Unit Heater	Hours of operation or fuel usage
EP-160-17	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-FUR-1	HSC Gas Furnace 1	Hours of operation or fuel usage
EP-165-2	EU-165-FUR-2	HSC Gas Furnace 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-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	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-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	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	Hours of operation or fuel usage
EP-391-5	EU-391-BLR-3	Mayflower Boiler	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	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	Hours of operation or fuel usage

EP-434-5	EU-434-BLR-3	Hot Water Boiler	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	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
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-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-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-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-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 2080 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 Requirement: DNR Construction Permit 16-A-048-PAL (SO_2 PAL)
DNR Construction Permit 16-A-044-PAL (NO_x PAL)
DNR Construction Permit 16-A-043-PAL (CO PAL)

*These units have been removed since the PAL permits were issued March 24, 2016

The small emission units listed below have been added at the facility and monitoring is required in accordance with the SO_2, NO_x, and CO PAL permits.

EP ID	EU ID	EU Description	Monitoring Requirements [1, 2, 5, 6]
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-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-441-17	EU-441-BLR-3	Laundry Building Boiler #3	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 2080 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 Requirement: 567 IAC 22.108(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, PM_{10}, $PM_{2.5}$

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 ($PM_{2.5}$) 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 $PM_{2.5}$, PM_{10}, 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 $PM_{2.5}$, PM_{10}, 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 $PM_{2.5}$, PM_{10}, and PM.

[2] Particulate matter ($PM_{2.5}$) emissions from natural gas shall be calculated by multiplying the natural gas by an emission factor of 7.6 lb/mmscf. 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 EP-022-2	EU-PP35 EU-022-BEAD-1	Shot blast Engineering Building Bead Blaster	EF/Material usage [12]
EP-PP45	EU-PP45	Central Vacuum system	Hours of operation [13]
EP-PP10 EP-PP11 EP-PP12	EU-PP10 EU-PP11 EU-PP12	Fuel Silo #1 Fuel Silo #2 Fuel Silo #3	EF/Material usage [14]
EP-PP08 EP-PP09 EP-PP30 EP-PP31 EP-PP32 EP-PP48 EP-PP49 EP-PP50	EU-PP08 EU-PP09 EU-PP30 EU-PP31 EU-PP32 EU-PP48 EU-PP49 EU-PP50	Fuel Crusher #1 Fuel Crusher #2 Minibunker 11 Fuel Crusher #3 Fuel Crusher #4 South Conveyor Enclosure Transfer Conveyor Enclosure Conveyor Discharge Enclosure	EF/Material usage [15]
EP-PP13 EP-185-1 Fugitive EP-PP53 EP-PP54	EU-PP13 EU-185-LIME-1 EU-F-185-LIME-2 EU-PP53 EU-PP54	Limestone Storage Silo Water Plant Lime Conveying System Lime Loading (Pneumatic) Dry Sorbent Injection Silo #1 Dry Sorbent Injection Silo #2	EF/Material usage [16]
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-490-21 *EP-490-25 *EP-490-26 *EP-490-27 *EP-490-28 *EP-490-29	EU-GLAZE-1 EU-490-PNT-3 EU-490-PNT-4 EU-490-PNT-5 EU-490-PNT-6 EU-490-PNT-7	Glazing Area within Ceramics DC System Printmaking Spray Booth Metals Spray Booth (Benchtop) Performing Arts Paint Booth (Walk-in) Art Paint Booth (Walk-in) Glazed Spray Booth (Ceramics Benchtop Spray 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-490-22 *EP-490-24 *EP-490-MTL-4	EU-490-MIX-1 EU-490-PLASTIC-1 EU-490-MTL-4	Clay Mixing Area within Ceramics DC System Ceramic Shell within Sculpture DC System Metal Electroplating	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]
EP-490-9	EU-490-KILN-14	Propane-Fired Burnout Kiln	EF/Material usage [28]
Various	Various	Wood Fired Kilns	EF/Material usage [29]

[1] Particulate matter ($PM_{2.5}$, PM_{10}, and PM) emissions shall be calculated by the sum of the monthly natural gas usage used in the emission unit multiplied by an emission factor of 7.6 lb/mmscf, 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 ($PM_{2.5}$, PM_{10}, 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 9.987×10^{-3} 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. Particulate matter ($PM_{2.5}$, PM_{10}, 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.
[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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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. For the other units:

for PM use an emission factor of 0.0697 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp;
for PM_{10} use an emission factor of 0.0573 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp;
for $PM_{2.5}$ use an emission factor of 0.0556 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp.
Each 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 ($PM_{2.5}$, PM_{10}, 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. For the other units:
for PM use an emission factor of 0.0697 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp;
for PM_{10} use an emission factor of 0.0573 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp;
for $PM_{2.5}$ use an emission factor of 0.0556 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp.
Each 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 ($PM_{2.5}$, PM_{10}, 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. For the other units:
for PM use an emission factor of 0.0697 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu for units ≤ 600 hp;
for PM_{10} use an emission factor of 0.0573 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu gallons for units ≤ 600 hp;
for $PM_{2.5}$ use an emission factor of 0.0556 lb/mmbtu for units > 600 hp or 0.31 lb/mmbtu gallons for units ≤ 600 hp.
Each sum shall be calculated on a monthly basis.

[8] Particulate matter ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, and PM) emission 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 ($PM_{2.5}$, PM_{10}, 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 Condition 16. 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 ($PM_{2.5}$, PM_{10}, 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/m^2 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, and PM) emissions shall be calculated on a monthly basis by multiplying the material usage by:
for PM an emission factor of 0.02 lb/ton if an emission factor from a stack test is not available;

for PM_{10} and $PM_{2.5}$ an emission factor of 0.006 lb/ton if an emission factor from a stack test is not available.

[23] Particulate matter ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ceramic art department sources.

[26] Particulate matter ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, 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 ($PM_{2.5}$, PM_{10}, and PM) emissions shall be calculated by the sum of the monthly amount of wood combusted multiplied by:
for PM an emission factor of 0.577 lb/MMBtu;
for PM_{10} an emission factor of 0.517 lb/MMBtu;
for $PM_{2.5}$ an emission factor of 0.447 lb/MMBtu.
Each 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 Requirement: DNR Construction Permit 16-A-047-PAL ($PM_{2.5}$ PAL)
DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

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

The PM, PM_{10}, $PM_{2.5}$ recordkeeping requirements also apply to all PM, PM_{10}, and $PM_{2.5}$-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 22.108(3)

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/mmscf, 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 2080 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 Requirement: 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 22.108(3)

Recordkeeping Requirements for SO_2

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 (SO_2) 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 (SO_2) 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 (SO_2) 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/mmscf, 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 (SO_2) 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 Requirement: DNR Construction Permit 16-A-048-PAL (SO_2 PAL)

The SO_2 recordkeeping requirements also apply to all SO_2-emitting units added after the issuance of the PAL permits.

Authority for Requirement: 567 IAC 22.108(3)

Recordkeeping Requirements for NO_x

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 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/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 nitrogen oxide (NO_x) emissions. A sum of daily emission values shall be calculated on a monthly basis.

Significant Emission Units

EP ID	EU(s) 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/mmscf, 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/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] 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 2080 hours per year and calculate the emissions on that basis.

Authority for Requirement: 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 22.108(3)

Recordkeeping Requirements for CO

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	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/mmscf. 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]
*EP-490-9	EU-490-KILN-14	Propane-Fired Burnout Kiln	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/mmscf, 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/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] 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 Requirement: DNR Construction Permit 16-A-043-PAL (CO PAL)

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

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

Authority for Requirement: 567 IAC 22.108(3)

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

Stack Testing Requirements for PM, PM10, PM2.5

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

Pollutant – Particulate Matter ($PM_{2.5}$)
1st Stack Test to be Completed by – March 29, 2017 [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-047-PAL ($PM_{2.5}$ PAL)

DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

Pollutant – Particulate Matter (PM_{10})
1st Stack Test to be Completed by - March 29, 2017 [1, 2]
Test Method - 40 CFR 51, Appendix M, 201A with 202
Authority for Requirement – DNR Construction Permit 16-A-047-PAL ($PM_{2.5}$ PAL)
DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

Pollutant – Particulate Matter (PM)
1st Stack Test to be Completed by - March 29, 2017 [1, 2]
Test Method - 40 CFR 51, Appendix M, 201A with 202
Authority for Requirement – DNR Construction Permit 16-A-047-PAL ($PM_{2.5}$ PAL)
DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

[1.] An initial stack test combusting coal alone is required by March 29, 2017. Subsequent annual stack tests must be completed no more than 13 months after the previous performance test. If the performance tests demonstrate that the filterable PM emission portion of the stack test for at least 2 consecutive years 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 Boiler 11, 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 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 $PM_{2.5}$, PM_{10}, 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 emission rate may be used for calculating emissions for any percentage of each type of biomass combusted.

EP ID	EU(s) 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-PAL ($PM_{2.5}$ PAL)

DNR Construction Permit 16-A-046-PAL (PM_{10} PAL)
DNR Construction Permit 16-A-045-PAL (PM PAL)

Stack Testing Requirements for CO

Stack Testing for EP-PP07 (Boiler 11)

Pollutant – Carbon Monoxide (CO)
1st Stack Test to be Completed by – March 29, 2017 [1, 2, 3]
Test Method - 40 CFR 60, Appendix A, Method 10
Authority for Requirement – DNR Construction Permit 16-A-043-PAL (CO PAL)

[1] An initial stack test combusting coal alone is required by March 29, 2017. Subsequent annual stack tests must be completed no more than 13 months after the previous performance test. If the performance tests 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, 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-PAL (CO PAL)

Continuous Emissions Monitoring

A. CEMS Requirements for SO_2

- *SO_2:*
  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 (SO_2) 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.
- *Flowmeter[1]:*

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 (SO_2 PAL)

A. <u>CEMS Requirements for NO_x</u>

- *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/mmbtu 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:

(iv) 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:

(c) 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.

(d) 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.

(v) 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:

(c) 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.

(d) 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.

(vi) 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. <u>CEMS Requirements for CO</u>

- *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 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:

(vii) 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:

(e) 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.

(f) 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.

(viii) 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:

(e) 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.

(f) For the missing data period of more than 8 hours, substitute the greater of:

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

(ix) 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.

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 Requirement: 567 IAC 22.108(3)

II. Facility Description and Equipment List – Main Campus

Facility Name: University of Iowa
Permit Number: 00-TV-002R2-M001

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	IDNR Construction Permit Number
EP-006-1	EU-006-GEN-1	Pharmacy Generator	00-A-940-S2
EP-006-2			00-A-941-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-185-2	EU-185-GEN-1	Water Plant Generator	99-A-448-S2
EP-418-1	EU-418-GEN-1	IATL Generator (dual stack)	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-1	EU1-1	Boyd Tower Generator	96-A-1238-S3
EP-2	EU2-1	General Hospital Generator	96-A-1239-S3
EP-4	EU4-1	Pomerantz Family Pavilion Generator	96-A-1240-S6
EP-5	EU5-1	JCP West Generator	96-A-1241-S2
EP-6	EU6-1	JCP East Generator	96-A-1242-S3
EP-7	EU7-1	John Pappajohn Pavilion Generator	96-A-1243-S2
EP-8	EU8-1	South Wing Generator	99-A-449-S2
EP-17	EU17-1	Pomerantz Family Pavilion Eye Clinic Generator	96-A-1244-S4
EP-19	EU19-1	Roy Carver Pavilion Generator	98-A-942-S3

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator (35 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 Hall Generator	02-A-379-S1
EP-204-2	EU-204-GEN-1	Bowen Science Generator	96-A-1235-S3

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-273-2	EU-273-GEN-2	Rienow Generator (250 kW)	Exempt
EP-276-2	EU-276-GEN-2	Daum Hall Generator	02-A-378-S3
EP-278-1	EU-278-GEN-1	DSB Generator	96-A-1236-S2
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-408-1	EU-408-GEN-1	Oakdale Uplink - ITS Broadcasting Generator (125 kW) (1)	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
EP-25	EU25-1	CDD Generator (230 kW)	Exempt
EP-PORTGEN-2	EU-PORT-GEN-2	Portable Generator 2 (465 bhp)	04-A-428-S2

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	Exempt
EP-161-1	EU-161-GEN-1	University Athletic Club Generator	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 (1)	Exempt
EP-450-1	EU-450-GEN-1	USB Generator	Exempt
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	Exempt
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	Exempt

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-003-5	EU-003-GEN-3	Chemistry Building Generator	06-A-851
EP-042-1	EU-042-GEN-1	Kinnick Stadium Generator	05-A-534-S1
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	ITC Generator (1)	11-A-292
EP-374-2	EU-374-GEN-2	CHA Generator	10-A-272
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 kW)(1)	03-A-645-S2
EP-455-1	EU-455-GEN-1	CBRB Generator	03-A-1412-S2

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-PORTGEN-1	EU-PORT-GEN-1	Portable Generator	10-A-073-S1
EP-48	EU48-1	ETC Generator	07-A-484-S1
EP-49	EU49-1	PFP Generator	09-A-520
EP-52	EU52-1	IRL ACCF Generator	12-A-109

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR 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

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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
EP-272-1	EU-272-GEN-1	Madison Street Residence Hall Emergency Generator	15-A-435

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-046-4	EU-046-GEN-2	IMU Generator	06-A-852
EP-188-1	EU-188-GEN-1	Spence Labs Generator	Exempt
EP-274-2	EU-274-GEN-2	Slater Hall Generator	Exempt
EP-308-1	EU-308-GEN-1	WCCWP Generator	Exempt

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-037-1	EU-037-GEN-1	Art Building West Generator	Exempt
EP-046-5	EU-046-GEN-3	IMU Generator - Flood Mitigation	Exempt
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd Natural Gas Generator (1)	Exempt

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-068-1	EU-068-GEN-1	CRWC Generator	Exempt
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator (1)	Exempt
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	Exempt
EP-120-1	EU-120-GEN-1	Hancher Generator	Exempt
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	Exempt
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator -- Dewatering Wells	Exempt
EP-418-4	EU-418-GEN-2	IATL Generator - Flood Mitigation	14-A-472
EP-51	EU51-1	Aircare Generator	Exempt
EP-61	EU61-GEN-1	ACCF Natural Gas Generator	Exempt
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator	Exempt
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator	Exempt

I. Fuel Storage Tanks

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-22	EU22-1	Pappajohn Pavilion Fuel Tank	99-A-582-S1
EP-24	EU24-UST-1	PFP Fuel Tank	99-A-600-S1

J. Paint Booths

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-160-20	EU-160-PNT-1	Paint Booth at MSSB	07-A-1293
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	IDNR 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-S4 99-A-944-S4 99-A-945-S4 99-A-946-S4
	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	

L. WCCWP Cooling Towers

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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

M. Boilers and Water Heaters

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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	Exempt
EP-391-4	EU-391-BLR-2	Mayflower Boiler	Exempt
EP-391-5	EU-391-BLR-3	Mayflower Boiler	Exempt
EP-434-1	EU-434-BLR-1	Levitt Center Hot Water Boiler	Exempt
EP-434-3	EU-434-BLR-2	Levitt Center Hot Water Boiler	Exempt
EP-434-5	EU-434-BLR-3	Levitt Center Hot Water Boiler	Exempt
EP-434-6	EU-434-BLR-5	Levitt Center Fulton Steam Boiler	Exempt
EP-441-2	EU-441-BLR-2	Laundry Building Boiler #2 (1)	Exempt
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3 (1)	Exempt
EP-457-1	EU-457-WH-1	Hawkeye Tennis Water Heater	Exempt
EP-457-2	EU-457-WH-2	Hawkeye Tennis Water Heater	Exempt
EP-478-1	EU-478-BLR-1	RRH Boiler	Exempt

N. Miscellaneous Processes

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-185-1	EU-185-LIME-1	Water Plant Lime Conveying System	N/A
EP-204-1	EU-204-INC-1	Crematorium-Natural Gas Combustion	87-A-156-S1
	EU-204-INC-1A	Crematorium-Pathological Waste Combustion	
EP-14	EU14-1	JCP Sterilizing Services	99-A-580

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
EU-013-BLR-2	Athletic Learning Center Boiler 2
EU-013-WH-1	Athletic Learning Center Water Heater
EU-018-AST-1	Biology Generator Fuel Tank
EU-022-AST-1	Engineering Building Generator Fuel Tank (530 gal, #2 diesel)
EU-022-BEAD-1	Engineering Building Bead Blaster
EU-042-AST-1	Kinnick Generator Fuel Tank (600 gal, #2 Diesel)
EU-044-AST-1	Currier Generator Tank
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-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. E Rooftop Furnace #1 (1) (2)
EU-069-FUR-2	2656 Crosspark Rd. E Rooftop Furnace #2 (1) (2)
EU-069-FUR-3	2656 Crosspark Rd. E Rooftop Furnace #3 (1) (2)
EU-069-FUR-4	2656 Crosspark Rd. W Rooftop Furnace (1) (2)
EU-069-FUR-5	2656 Crosspark Rd. W Rooftop Lab Furnace #3 (1) (2)
EU-073-AST-1	Burge Hall Generator Fuel Tank
EU-075-AST-1	CoPH Generator Fuel Tank
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-081-WH-1	Faculty Art Studios Water Heater (4)
EU-085-FUR-1	Furnace (2)
EU-085-WH-1	Water Heater (4)
EU-090-PNT-1	Woodshop Paint Booth
EU-090-SMELT-1	Crucible / Forge Furnaces
EU-090-PLASTIC-1	Ceramic Shell
EU-090-PNT-2	Ceramics Paint Booth
EU-090-MIX-1	Clay Mixers
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-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-101-BLR-1	Boiler – WRAC (4)
EU-101-WH-1	Water Heater-WRAC (4)
EU-112-AST-1	Hillcrest Hall Generator Fuel Tank
EU-123-FUR-1	Furnace (2)
EU-123-WH-1	Water Heater (4)
EU-124-FUR-1	Furnace (2)
EU-124-WH-1	Water Heater (4)
EU-132-FUR-1	Furnace (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-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-WH-1	MSSB Water Heater (4)
EU-165-FUR-1	HSC Gas Furnace 1 (2)
EU-165-FUR-2	HSC Gas Furnace 2 (2)
EU-165-WH-1	Water Heater (4)
EU-176-FUR-1	Furnace (2)
EU-176-WH-1	Water Heater (4)
EU-185-AST-1	Water Plant Generator Fuel Tank (2,000 gal, #2 Diesel)
EU-187-FUR-1	Furnace (2)
EU-187-FUR-2	Furnace (2)
EU-188-AST-1	Spence Labs Tank
EU-195-FUR-1	Furnace (2)

EU-195-WH-1	Water Heater (4)
EU-199-FUR-1	Furnace (2)
EU-199-WH-1	Water Heater (4)
EU-200-FUR-1	Furnace (2)
EU-200-WH-1	Water Heater (4)
EU-204-AST-1	Bowen Science Building Fuel Tank
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-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-255-WH-1	Animal Care Rodent House Water Heater (1) (4)
EU-274-AST-1	Slater Hall Fuel Tank (500 gal, #2 Diesel)
EU-276-AST-1	Daum Residence Hall Generator Fuel Tank
EU-290-AST-1	ITC Day Tank (1)
EU-290-UST-1	ITC 15,000 Gallon Tank (1)
EU-300-WH-1	Water Heater (4)
EU-304-UH-1	Unit Heater (4)
EU-304-UH-2	Unit Heater (4)
EU-304-UH-3	Unit Heater (4)
EU-307-FUR-1	Furnace (2)
EU-307-FUR-2	Furnace (2)
EU-307-WH-1	Water Heater (4)
EU-308-AST-1	WCCWP Generator Tank
EU-316-AST-1	Lindquist Center Generator Fuel Tank (500 gal, #2 Diesel)
EU-317-FUR-1	Law Library Annex Furnace (2)
EU-317-RH-1	Law Library Annex Radiant 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-337-UH-1	Unit Heater (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-RH-16	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-358-UH-1	Unit Heater 2)
EU-358-UH-2	Unit Heater (2)
EU-358-UH-3	Unit Heater (2)
EU-369-FUR-1	Furnace (2)
EU-370-WH-1	Iowa Geological Survey Water Heater (1) (4)
EU-372-FUR-1	Heinz Road Annex Furnace (2)
EU-372-FUR-2	Heinz Road Annex Furnace (2)
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-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-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-UH-6	Unit Heater (2)
EU-436-UH-7	Unit Heater (2)
EU-437-FUR-1	Furnace (2)
EU-437-WH-1	Water Heater (4)
EU-439-BLR-1	NADS Boiler #1 (1)
EU-439-BLR-2	NADS Boiler #2 (1)
EU-439-BLR-3	NADS Boiler #3 (1)
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-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 Water Heater #12 (1) (2)
EU-446-AST-1	Hall of Fame Generator Fuel Tank
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
EU-457-BLR-1	West Tennis Boiler (4)
EU-457-BLR-2	West Tennis Boiler (4)
EU-460-FUR-1	Furnace (2)
EU-460-WH-1	Water Heater (4)

EU-461-FUR-1	Furnace [2]
EU-461-FUR-2	Furnace [2]
EU-461-FUR-3	Furnace [2]
EU-461-FUR-4	Furnace [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-490-FUR-1	Furnace [2]
EU-490-FUR-2	Furnace [2]
EU-490-FUR-3	Furnace [2]
EU-490-FUR-4	Furnace [2]
EU-490-FUR-5	Furnace [2]
EU-490-FUR-6	Furnace [2]
EU-490-FUR-7	Furnace [2]
EU-490-FUR-8	Furnace [2]
EU-490-FUR-9	Furnace [2]
EU-F-SAND	Sand Pile (Inside)
EU-F-SALT	Salt Pile (Inside)
EU-F-003-PTW-1	Parts Washer-Chem/Bot Safety Kleen
EU-F-185-LIME-2	Lime Loading (Pneumatic)
EU-F-241-EMF	EMF - Oakdale Storage [1]
EU-F-278-PTW-1	Parts Washer-DSB Bldg
EU-F-342-PTW-1	Parts Washer-Campus Garage
EU-PORT-AST-1	Portable Generator 800 gallon Fuel Tank
EU11-UST-1	Jet Fuel Tank
EU21-1	Colloton Pavilion East Fuel Tank (10,000 gal, Diesel)
EU23-UST-1	RCP Fuel Tank (10,000 gal)
EU31-AST-1	UIHC ETC Day Tank
EU43-UST-1	Boyd Tower Tank (10,000 gal, Diesel)
EU53-AST-1	IRL ACF Fuel Tank
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
EU58-BLR-1	IRL-ACF Boiler
EU59-BLR-1	IRL-ACF Boiler
EU60-UST-1	JCPW Fuel Tank
EU65-UST-1	UIHC Centralized Emergency Power Generator #1 Fuel Tank
EU66-UST-1	UIHC Centralized Emergency Power Generator #2 Fuel Tank
EU67-UST-1	UIHC Centralized Emergency Power Generator #3 Fuel Tank

[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 22.103.
[4] Capacity is either less than 120 US gallons or 1.6 MMBtu/hr.

III. Emission Point-Specific Conditions – Main Campus

Facility Name: University of Iowa
Permit Number: 00-TV-002R2-M001

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Existing (Pre-2003) Emergency Generators, Compression Ignition, > 500 HP

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 Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity
EP-006-1	EU-006-GEN-1	Pharmacy Generator	5.96 MMBtu/hr
EP-006-2			
EP-018-4	EU-018-GEN-3	Biology Bldg. Generator	6.06 MMBtu/hr
EP-022-1	EU-022-GEN-1	Engineering Bldg. Generator	5.38 MMBtu/hr
EP-044-1	EU-044-GEN-1	Currier Hall Generator	4.00 MMBtu/hr
EP-185-2	EU-185-GEN-1	Water Plant Generator	11.50 MMBtu/hr
EP-418-1	EU-418-GEN-1	IATL Generator (dual stack)	7.60 MMBtu/hr
EP-418-2			
EP-447-1	EU-447-GEN-1	MEBRF Generator	12.08 MMBtu/hr
EP-448-1	EU-448-GEN-1	New Biology Building Generator	4.82 MMBtu/hr
EP-1	EU1-1	Boyd Tower Generator	9.86 MMBtu/hr
EP-2	EU2-1	General Hospital Generator	9.86 MMBtu/hr
EP-4	EU4-1	Pomerantz Family Pavilion Generator	9.25 MMBtu/hr
EP-5	EU5-1	JCP West Generator	12.33 MMBtu/hr
EP-6	EU6-1	JCP East Generator	12.33 MMBtu/hr
EP-7	EU7-1	John Pappajohn Pavilion Generator	12.33 MMBtu/hr
EP-8	EU8-1	South Wing Generator	4.00 MMBtu/hr
EP-17	EU17-1	Pomerantz Family Pavilion Eye Clinic Generator	12.08 MMBtu/hr
EP-19	EU19-1	Roy Carver Pavilion Generator	13.82 MMBtu/hr

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 Number	Associated Emission Unit Number	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)	NO_x Limit	Authority for Requirement (Construction Permit Number)
EP-006-1	EU-006-GEN-1	40%(1)	N/A	0.41	N/A	00-A-940-S2
EP-006-2						00-A-941-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-185-2	EU-185-GEN-1	40%(1)	N/A	1.61	51.39 lb/hr	99-A-448-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-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-S3
EP-4	EU4-1	40%(3)	N/A	1.4	N/A	96-A-1240-S6
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-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-17	EU17-1	40%(3)	N/A	0.79	N/A	96-A-1244-S4
EP-19	EU19-1	40%(2)	1.93	1.93	10.7 (TPY)	98-A-942-S3

(1) An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
(2) An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
(3) An exceedence 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 exceedence. If exceedences 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 (SO_2)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirement: 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 Number	Associated Emission Unit Number	Rolling 12-month Hours of Operation Limit (Hours)	Fuel Sulfur Limit[1] (By Weight)	Allowable Fuel Type	Reporting & Recordkeeping Requirements [2]	Authority for Requirements (DNR Construction Permit)
EP-006-1	EU-006-GEN-1	500	0.05%	#1 or #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.	00-A-940-S2
EP-006-2						00-A-941-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-185-2	EU-185-GEN-1	500	0.05%	#2 Diesel		99-A-448-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-1	EU1-1	300	0.05%	#2 Diesel		96-A-1238-S3
EP-2	EU2-1	300	0.05%	#2 Diesel		96-A-1239-S3
EP-4	EU4-1	300	0.05%	#2 Diesel		96-A-1240-S6
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-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-17	EU17-1	250	0.05%	Diesel		96-A-1244-S4
EP-19	EU19-1	500	0.05%	Diesel		98-A-942-S3

[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

All 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.

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

<u>Emission Point Characteristics</u>
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

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-006-1	EU-006-GEN-1	00-A-940-S2	11.5	7	2,000 combined	700	Vertical Unobstructed
EP-006-2		00-A-941-S2	11.5	7		700	Vertical Unobstructed
EP-018-4	EU-018-GEN-3	01-A-800-S3	66.75	14	1,900	906	Vertical Unobstructed
EP-022-1	EU-022-GEN-1	99-A-942-S4	77.16	8	1,500	1,119	Vertical Unobstructed
EP-044-1	EU-044-GEN-1	01-A-730-S2	80.5	9.75	1,200	1,063	Vertical Unobstructed
EP-185-2	EU-185-GEN-1	99-A-448-S2	60	12	3,500	990	Vertical Unobstructed
EP-418-1 EP-418-2	EU-418-GEN-1	96-A-1237-S3	14.5	8	3,300	755	Vertical Unobstructed
EP-447-1	EU-447-GEN-1	00-A-840-S1	86	14	3,700	1,018	Vertical Unobstructed
EP-448-1	EU-448-GEN-1	98-A-941-S4	14	8	1,495	939	Vertical Unobstructed
EP-1	EU1-1	96-A-1238-S3	40.25	12	3,100	775	Vertical Unobstructed
EP-2	EU2-1	96-A-1239-S3	63.5	16	4,100	735	Vertical Unobstructed
EP-4	EU4-1	96-A-1240-S6	82.3	14	2,950	950	Vertical Unobstructed

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-5	EU5-1	96-A-1241-S2	107	24	9,754 acfm	959	Vertical Unobstructed
EP-6	EU6-1	96-A-1242-S3	123.4	15	9,185 acfm	702	Vertical Unobstructed
EP-7	EU7-1	96-A-1243-S2	107	15	11,520 acfm	805	Vertical Unobstructed
EP-8	EU8-1	99-A-449-S2	93.2	10	1,200	1,060	Vertical Unobstructed
EP-17	EU17-1	96-A-1244-S4	82	18	10,337 acfm	1,018	Vertical Unobstructed
EP-19	EU19-1	98-A-942-S3	106	15	11,860	962	Vertical Unobstructed

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP (and also < 400 HP)

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)
EP-002-1	EU-002-GEN-1	Schaeffer Hall Generator	47
EP-028-1	EU-028-GEN-1	Med Labs Generator	101
EP-033-1	EU-033-GEN-1	Westlawn Generator	134
EP-034-1	EU-034-GEN-1	MEB Generator	241
EP-040-1	EU-040-GEN-1	Fieldhouse Generator	44
EP-273-2	EU-273-GEN-2	Rienow Generator	335
EP-377-1	EU-377-GEN-1	Boyd Law Generator	349
EP-391-2	EU-391-GEN-1	Mayflower Generator	268
EP-401-1	EU-401-GEN-1	EMRB Generator	282
EP-408-1	EU-408-GEN-1	Oakdale Uplink - ITS Broadcasting Generator	168
EP-434-2	EU-434-GEN-1	Levitt Center Generator	335
EP-435-1	EU-435-GEN-1	MTF Generator (250 kW)	335
EP-446-5	EU-446-GEN-1	Hall of Fame Generator	308
EP-456-1	EU-456-GEN-1	Adler Journalism Building Generator	335
EP-25	EU25-1	CDD Generator	308

(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 these emission points shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(3)"b"(2)

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

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 22.108(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)(1)(ii) these compression ignition emergency engines, located at a major source, is an existing stationary RICE as it was constructed prior to June 12, 2006.

Compliance Date
Per 63.6595(a)(1) you must comply with the provisions of Subpart ZZZZ that are applicable by May 3, 2013.

Fuel Requirements
No requirements except (beginning January 1, 2015) if you own or operate an existing emergency compression ignition stationary engine with a site rating of more than 100 bhp and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Those requirements include a

maximum sulfur content of 15 ppm (0.0015%) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. 40 CFR 63.6604(b)

Operation and Maintenance Requirements 40 CFR 63.6602, 63.6625, 63.6640 and Tables 2c and 6 to Subpart ZZZZ

1. Change oil and filter every 500 hours of operation or annually, 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 annually, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or annually, 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 spend for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. See 40 CFR 63.6655(f) for additional information.

Notification and Reporting Requirements 40 CFR 63.6645, 63.6650 and Table 2c to Subpart ZZZZ

1. An initial notification is not required per 40 CFR 63.6645(a)(5).
2. A report may be required for failure to perform the work practice requirements on the schedule required in Table 2c. (See Footnote 1 of Table 2c for more information.)

3. If you own or operate an emergency stationary RICE with a site rating of more than 100 bhp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must submit an annual report. See 40 CFR 63.6650(h) for additional information.

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

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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Existing (Pre-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP (and > 400 HP)

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 Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity
EP-073-1	EU-073-GEN-1	Burge Hall Generator	3.14 MMBtu/hr
EP-112-1	EU-112-GEN-1	Hillcrest Hall Generator	2.78 MMBtu/hr
EP-204-2	EU-204-GEN-1	Bowen Science Generator	3.59 MMBtu/hr
EP-276-2	EU-276-GEN-2	Daum Hall Generator	3.14 MMBtu/hr
EP-278-1	EU-278-GEN-1	DSB Generator	2.85 MMBtu/hr
EP-316-1	EU-316-GEN-1	Lindquist Generator	2.55 MMBtu/hr
EP-430-1	EU-430-GEN-1	PBAB Generator	3.08 MMBtu/hr

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 - Emission Limits

Emission Point Number	Associated Emission Unit Number	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr)	PM_{10} Limit (lb/hr)	Authority for Requirement (Construction Permit Number)
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-278-1	EU-278-GEN-1	40%(3)	N/A	0.70	96-A-1236-S2
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 exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
(2) An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).
(3) An exceedence 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 exceedence. If exceedences 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 (SO_2)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permits specified in Table: Existing (Pre-June 12, 2006) 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- June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP - Operational Limits & Requirements

Emission Point Number	Associated Emission Unit Number	Rolling 12-month Hours of Operation Limit (Hours)	Fuel Sulfur Limit(1) (By Weight)	Allowable Fuel Type	Reporting & Recordkeeping Requirements (2)	Authority for Requirements (DNR Construction Permit)
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-278-1	EU-278-GEN-1	300	0.05%	Diesel		96-A-1236-S2
EP-316-1	EU-316-GEN-1	500	0.05%	#2 Diesel		02-A-380-S1
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

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 compression ignition emergency engines, located at a major source, is an existing stationary RICE as it was constructed prior to June 12, 2006.

Compliance Date
Per 63.6595(a)(1) you must comply with the provisions of Subpart ZZZZ that are applicable by May 3, 2013.

Fuel Requirements
No requirements except (beginning January 1, 2015) if you own or operate an existing emergency compression ignition stationary engine with a site rating of more than 100 bhp and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Those requirements include a maximum sulfur content of 15 ppm (0.0015%) by weight and a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. 40 CFR 63.6604(b)

Operation and Maintenance Requirements 40 CFR 63.6602, 63.6625, 63.6640 and Tables 2c and 6 to Subpart ZZZZ
1. Change oil and filter every 500 hours of operation or annually, 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 annually, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or annually, 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
3. Keep records of the maintenance conducted on the stationary RICE.
4. Keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spend 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
4. An initial notification is not required per 40 CFR 63.6645(a)(5).
5. 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.)
6. If you own or operate an emergency stationary RICE with a site rating of more than 100 bhp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must submit an annual report. See 40 CFR 63.6650(h) for additional information.

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

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

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**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

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-278-1	EU-278-GEN-1	96-A-1236-S2	65.5	10	2,715 acfm	895	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 Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PORTGEN-2
(Existing (Pre-June 12, 2006) Emergency Generator, Compression Ignition, < 500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-PORT-GEN-2
Emissions Control Equipment ID Number: NA
Emissions Control Equipment Description: NA
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-PORT-GEN-2
Emission Unit Description: Portable Generator 2
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 22.5 gal/hr, 465 Bhp

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 04-A-428-S2

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.10 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 (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 04-A-428-S2
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.

Operating Requirements with Associated Monitoring and Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

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: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
DNR Construction Permit 04-A-428-S2

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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: See Table: Existing (Pre-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Existing (pre-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)
EP-013-1	EU-013-GEN-1	Athletic Learning Center Generator	16
EP-161-1	EU-161-GEN-1	University Athletic Club Generator	176
EP-304-4	EU-304-GEN-1	Jacobson Building Generator	27
EP-439-4	EU-439-GEN-1	NADS Natural Gas Generator	87
EP-450-1	EU-450-GEN-1	USB Generator	60
EP-454-1	EU-454-GEN-1	Blank Honors Center Generator	240
EP-458-1	EU-458-GEN-1	Pomerantz Career Center E Generator	322

(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 these emission points shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

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, is an existing stationary RICE as it was constructed prior to June 12, 2006.

Compliance Date
Per 63.6595(a)(1) you must comply with the provisions of subpart ZZZZ that are applicable by 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 annually, 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 annually, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 500 hours of operation or annually, 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.)
3. If you own or operate an emergency stationary RICE with a site rating of more than 100 bhp that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), you must submit an annual report. See 40 CFR 63.6650(h) for additional information.

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

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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

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 Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-042-1	EU-042-GEN-1	Kinnick Stadium Generator	968	06/15/2005
EP-435-2	EU-435-GEN-2	MTF Diesel Generator (500 kW)	726	06/01/2003
EP-455-1	EU-455-GEN-1	CBRB Generator	1598	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 Number	Associated Emission Unit Number	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	Authority for Requirement (Construction Permit Number)
EP-042-1	EU-042-GEN-1	40%(1)	0.91	0.91	N/A	N/A	05-A-534-S1
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 lb/hr	03-A-1412-S2

(1) An exceedence 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 exceedence. If exceedences 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 (SO_2)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirement: 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 this equipment shall comply with the operational limits and requirements listed below.

Operating Limits
Operating limits for these emission units shall be:

Hours of operation:
1. The emergency generators shall not operate more than 500 hours per rolling twelve-month period.

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

Process throughput:
1. The emergency generators shall be limited to using #2 diesel fuel with a maximum sulfur content of 0.05% by weight.

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

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record each month the total hours of operation of the emergency generators. Calculate and record rolling twelve-month totals.
2. Maintain records of the sulfur content of the fuel oil used in the generators.

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

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, 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: 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**

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate**	**Exhaust Temp. (ºF)**	**Discharge Style**
EP-042-1	EU-042-GEN-1	05-A-534-S1	14.33	9.75	1,832 scfm	1,011	Vertical Unobstructed
EP-435-2	EU-435-GEN-2	03-A-645-S2	14	10	1,465 scfm	1,187	Vertical Unobstructed
EP-455-1	EU-455-GEN-1	03-A-1412-S2	92.5	14	3,749 scfm	857	Vertical Unobstructed

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-003-5
(New (Post-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-003-GEN-3
Emissions Control Equipment ID Number: NA
Emissions Control Equipment Description: NA
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-003-GEN-3
Emission Unit Description: Chemistry Building Generator
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 1250 kW

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(s): 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 (PM_{10})
Emission Limit(s): 1.71 lb/hr
Authority for Requirement: DNR Construction Permit 06-A-851

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.71 lb/hr
Authority for Requirement: DNR Construction Permit 06-A-851

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 06-A-851
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 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.

Operating limits for this emission unit shall be:

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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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).

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	NOx	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 80.510(b).

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 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. 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 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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP

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 Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-075-1	EU-075-GEN-1	College of Public Health Generator	755	07/01/2009
EP-212-1	EU-212-GEN-1	EPF1 Emergency Generator	2011	06/01/2007
EP-374-2	EU-374-GEN-2	CHA Generator	619	09/01/2010
EP-48	EU48-1	ETC Generator	1073	11/28/2007
EP-49	EU49-1	PFP Generator	2328	09/01/2009
EP-52	EU52-1	IRL ACCF Generator	546	05/02/2012

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 Number	Associated Emission Unit Number	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 Requirement (Construction Permit Number)
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
EP-48	EU48-1	40%(1)(2)	1.13	1.13	N/A	N/A	07-A-484-S1
EP-49	EU49-1	40%(1)(2)	0.82	0.82	26.46	12.08	09-A-520
EP-52	EU52-1	40%(1)	N/A	N/A	N/A	N/A	12-A-109

(1) An exceedence 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 exceedence. If exceedences 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 Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirement: 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 (all limits in g/kW-hr)

Emission Point Number	Associated Emission Unit Number	PM Limit (Filterable only)	NOx	NOx + NMHC	CO	HC
EP-075-1	EU-075-GEN-1	0.20	N/A	4.0	3.5	N/A
EP-212-1	EU-212-GEN-1	0.20	N/A	6.4	3.5	N/A
EP-374-2	EU-374-GEN-2	0.20	N/A	4.0	3.5	N/A
EP-48	EU48-1	0.20	N/A	6.4	3.5	N/A
EP-49	EU49-1	0.20	N/A	6.4	3.5	N/A
EP-52	EU52-1	0.20	N/A	4.0	3.5	N/A

Authority for Requirement: 40 CFR 60 Subpart IIII, 40 CFR 60.4205(b)

Additional NPSP Limits for EP-52 only:

Pollutant: Opacity – acceleration mode
Emission Limits: 20%
Authority for Requirement: 40 CFR 89.113(a)(1)
DNR Construction Permit 12-A-109

Pollutant: Opacity – lugging mode
Emission Limits: 15%
Authority for Requirement: 40 CFR 89.113(a)(2)
DNR Construction Permit 12-A-109

Pollutant: Opacity – peaks in acceleration or lugging mode
Emission Limits: 50%
Authority for Requirement: 40 CFR 89.113(a)(3)
DNR Construction Permit 12-A-109

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission units shall be:

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

For units EU-075-GEN-1, EU-212-GEN-1, EU-374-2, EU48-1, and EU49-1 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, 2007, diesel fuel fired in these emergency generators shall be limited to a maximum sulfur content of 500 ppm and a minimum centane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR§80.510(a).
C. 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 centane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR§80.510(b).
D. 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-480, 08-A-074, 10-A-272, 07-A-484-S1, and 09-A-520

For unit EU-52 only;

Operating limits for this emission unit shall be:

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

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

For units EU-075-GEN-1, EU-212-GEN-1, EU-374-2, EU48-1, and EU49-1 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 Requirement: DNR Construction Permits 09-A-480,
08-A-074, 10-A-272, 07-A-484-S1, and 09-A-520

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 80.510(b) ; 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 Permits 12-A-109

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 Requirement: 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**

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (acfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-075-1	EU-075-GEN-1	09-A-480	80.92	10.02	3,625	900	Vertical Unobstructed
EP-212-1	EU-212-GEN-1	08-A-074	57	14	11,060	764	Vertical Unobstructed
EP-374-2	EU-374-GEN-2	10-A-272	10.17	8	3,655	910	Vertical Unobstructed
EP-48	EU48-1	07-A-484-S1	106.25	12	6,932	964	Vertical Unobstructed
EP-49	EU49-1	09-A-520	82	16	11,654	788	Vertical Unobstructed
EP-52	EU52-1	12-A-109	100	8	3,334	919	Vertical Unobstructed

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-290-1
(New (Post-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-290-GEN-1
Emissions Control Equipment ID Number: CE-290-1
Emissions Control Equipment Description: Selective Catalytic Reduction
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-290-GEN-1
Emission Unit Description: ITC Generator
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 3056 bhp

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(s): 40 % [(1)]
Authority for Requirement: DNR Construction Permit 11-A-292
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_{10})
Emission Limit(s): 1.09 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-292

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.09 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-292

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 11-A-292
567 IAC 23.3(3)

Pollutant: Nitrogen Oxide (NO_x)
Emission Limit(s): 6.02 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-292

NSPS Emission Limits

Pollutant: Particulate Matter (Filterable Only)
Emission Limit(s): 0.54 g/kW-hr
Authority for Requirement: DNR Construction Permit 11-A-292
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Hydrocarbons (HC)
Emission Limit(s): 1.3 g/kW-hr
Authority for Requirement: DNR Construction Permit 11-A-292
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 9.2 g/kW-hr
Authority for Requirement: DNR Construction Permit 11-A-292
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 11.4 g/kW-hr
Authority for Requirement: DNR Construction Permit 11-A-292
40 CFR 60 Subpart IIII
567 IAC 23.1(2)"yyy"

Operational Limits

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

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).
E. The diesel fuel fired in this Emergency Generator shall be limited to a maximum sulfur content of 15 ppm and a minimum centane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR§80.510(b).
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 permittee shall operate and maintain the control equipment in accordance with the recommendations of the manufacturer.

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. 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.
B. 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.
C. The owner or operator shall maintain records of the sulfur content of the fuel oil combusted in this Emergency Generator.
D. The owner or operator of this Emergency Generator shall follow the notification, reporting, and recordkeeping requirements of 40 CFR §60.4214(b).
E. The owner or operator shall keep records of all inspections and maintenance for the control equipment.

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).

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].

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
40 CFR Part 60 Subpart IIII

567 IAC 23.1(4)"cz"
567 IAC 23.1(2)"yyy"
DNR Construction Permit 11-A-292

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 (^oF): 896
Discharge Style: Vertical unobstructed
Authority for Requirement: DNR Construction Permit 11-A-292

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PORTGEN-1 (New (Post-December 19, 2002) Emergency Generator, Compression Ignition, > 500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-PORT-GEN-1
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: N/A
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-PORT-GEN-1
Emission Unit Description: Portable Generator
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 619 bhp

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(s): 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 (PM_{10})
Emission Limit(s): 0.26 lb/hr
Authority for Requirement: DNR Construction Permit 10-A-073-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.26 lb/hr
Authority for Requirement: DNR Construction Permit 10-A-073-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 10-A-073-S1
567 IAC 23.3(3)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 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.

Operating Limits

Operating limits for these emission units shall be:

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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

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 (^oF): 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(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

Associated Emission Unit ID Numbers: EU62-GEN-1, EP63-GEN-1, EU64-GEN-1

Emission Unit vented through this Emission Point: EU62-GEN-1, EP63-GEN-1, EU64-GEN-1
Emission Unit Description: UIHC Centralized Emergency Power Generators 1, 2 and 3
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 3634 bhp

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(s): 40 % [(1)]
Authority for Requirement: 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 Limit(s): 0.72 lb/hr
Authority for Requirement: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.72 lb/hr
Authority for Requirement: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf; 0.72 lb/hr
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 51.15 lb/hr
Authority for Requirement: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 6.01 lb/hr
Authority for Requirement: 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.

Operating Limits

Operating limits for these emission units shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D.
B. This engine is limited to operating a maximum of 500 hours in any rolling 12-month period.
C. i. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4219 and in accordance with §60.4211. There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition B. is not exceeded. In accordance with §60.4211, the engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
ii. The engine is 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. 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. The 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), 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
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 number of hours that the engine operated for allowed non-emergency operations;
   iii. the total number of hours that the engine operated; and
   iv. 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; and
   ii. the number of hours that the engine operated for allowed non-emergency operations.
C. The owner or operator of the engine 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 Requirement: DNR Construction Permits 15-A-194, 15-A-195 and 15-A-196

NSPS and NESHAP Applicability

A. 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.
   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).

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

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

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-62	EU62-GEN-1	15-A-194	70	18	7300	922	Vertical
EP-63	EU62-GEN-1	15-A-195	70	18	7300	922	Vertical
EP-64	EU62-GEN-1	15-A-196	70	18	7300	922	Vertical

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP-275-1	EU-275-GEN-1	West Campus Residence Hall Generator	Natural Gas	530 bhp
EP-391-6	EU-391-GEN-2	Mayflower Residence Hall Generator - Pump Station	Natural Gas	530 bhp

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(s): 40 % [(1)]
Authority for Requirement: DNR Construction Permits 13-A-543, 14-A-259
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(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 14-A-259
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 14-A-259
567 IAC 23.3(3)

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

Operating Limits
Operating limits for these emission units shall be:

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.

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

For unit EU-275-GEN-1 only

A. The engine must be installed and configured according to the manufacturer's emission-related specifications
B. 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 13-A-543

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

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

(1) The owner or operator shall maintain the following monthly records:
   a. the number of hours that the engine operated for maintenance checks and readiness testing;
   b. the total number of hours that the engine operated; and
   c. the rolling 12-month total amount of the number of hours that the engine operated.
(2) The owner or operator shall maintain the following annual records:
   a. the number of hours that the engine operated for maintenance checks and readiness testing.

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

For unit EP-275-1 only

1. The monthly records shall include the number of hours that the engine operated for allowed non-emergency operations.
2. The annual records shall include the number of hours that the engine operated for allowed non-emergency operations.
3. 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 Requirement: DNR Construction Permit 13-A-543

NSPS and NESHAP Applicability

<u>NESHAP</u>:
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, 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: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"
DNR Construction Permits 13-A-543, 14-A-259

<u>NSPS:</u>
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.

1. 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**
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 (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.

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

Emission Point Characteristics
These emission points shall conform to the specifications listed below.

Table: Post-2003 Emergency Generators – Emission Point Characteristics

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-275-1	EU-275-GEN-1	13-A-543	131	8	680	1110	Vertical Unobstructed
EP-391-6	EU-391-GEN-2	14-A-259	19	8	680	1112	Vertical Unobstructed

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-272-1; MSRH NG Emergency Generator [New (Post-December 19, 2002) Emergency Generators, Spark Ignition, >500 HP]

Associated Equipment

Associated Emission Unit ID Numbers: EU-272-GEN-1

Table: New (Post-December 19, 2002) MSRH NG Emergency Generator, Spark Ignition, >500 HP

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP-272-1	EU-272-GEN-1	Madison Street Residence Hall Emergency Generator	Natural Gas	530 bhp

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(s): 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(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 15-A-435
567 IAC 23.3(2)"a"(1)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
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.

Operating Limits

Operating limits for these emission units shall be:

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 & Recordkeeping:

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show compliance with the following requirements:

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:

1. The total number of hours that the engine operated for maintenance checks and readiness testing.
2. The total number of hours that the engine operated.

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

New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (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: 40 CFR Part 60, Subpart JJJJ
DNR Construction Permit 15-A-435

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

<u>Emission Point Characteristics</u>
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 (^{o}F): 1112
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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-046-4
(New (Post June 12, 2006 Emergency Generator, Compression Ignition, <500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-046-GEN-2
Emissions Control Equipment ID Number: None
Emissions Control Equipment Description: N/A
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-046-GEN-2
Emission Unit Description: IMU Generator
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 469 bhp

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 06-A-852
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_{10})
Emission Limit(s): 1.0 lb/hr
Authority for Requirement: DNR Construction Permit 06-A-852

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.0 lb/hr
Authority for Requirement: DNR Construction Permit 06-A-852

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 06-A-852
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 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(s): 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.

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 + NOx	HC	NOx	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 Subpart IIII
10 ≤ Disp. < 30	All ranges	-	-	9.8 - 17.0 [(1)] (7.3 - 12.7)	-	-	40 CFR 94.8(a)(1)

[(1)] (a) 17.0 g/kW-hr (12.7 g/HP-hr) when maximum test speed is less than 130 rpm;
(b) $45.0 \times n^{-0.20}$ g/kW-hr ($34.0 \times n^{-0.20}$ g/HP-hr) when maximum test speed is at least 130 but less than 2000 rpm, where n is the maximum test speed of the engine in revolutions per minute; and
(c) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum test speed is 2000 rpm or more.

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 80.510(b).

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. 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. 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 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.
4. If your emergency engine has a maximum engine power of more than 100 HP and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii) or operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), you must submit an annual report according to the requirements in 40 CFR 60.4214(d)(1) through (3). See 40 CFR 60.4214(d) for more information.

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

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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: New (Post-June 12, 2006) Emergency Generators, Compression Ignition, < 500 HP

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-188-1	EU-188-GEN-1	Spence Labs Generator	244	03/22/2011
EP-274-2	EU-274-GEN-2	Slater Hall Generator	335	08/01/2007
EP-308-1	EU-308-GEN-1	WCCWP Generator	148	06/15/2007

(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 these emission points shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)”a”

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(3)"b"(2)

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

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 22.108(3)

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)(1)(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 (for engines with displacement (L/cyl) < 10):
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 + NOx	CO	PM	Opacity	Rule Ref
Disp. < 10	75 ≤ kW < 130 (100 ≤ HP < 175)	2007+	4.0 (3.0)	5.0 (3.7)	0.30 (0.22)	(1)	(2)

Engine Displacement (l/cyl)	Maximum Engine Power	Model Year(s)	NMHC + NOx	CO	PM	Opacity	Rule Ref
	130 ≤ kW < 225 (175 ≤ HP < 302)			3.5 (2.6)	0.20 (0.15)		
	225 ≤ kW < 450 (302 ≤ HP < 604)						

(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.

Emission Standards (for engines with 10 ≤ Displacement (l/cyl) < 30):
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 (liters/cylinder)	Maximum Engine Power	Model Year	HC + NOx	CO	PM	Rule Ref
10 ≤ Disp. < 15	All power levels	2007 - 2012	7.8 (5.8)	5.0 (3.7)	0.27 (0.20)	(1)
15 ≤ Disp. < 20	kW < 3300 (HP < 4425)	2007 - 2012	8.7 (6.5)	5.0 (3.7)	0.5 (0.37)	(1)
	3300 ≤ kW (4425 ≤ HP)		9.8 (7.3)			
	All power levels	2013	9.8 (7.3)			
	kW < 2000 (HP < 2682)	2014+	7.0 (5.2)		0.34 (0.25)	(2)
	2000 ≤ kW (2682 ≤ HP)		9.8 (7.3)		0.5 (0.37)	(1)
20 ≤ Disp. < 25	All power levels	2007 - 2013	9.8 (7.3)	5.0 (3.7)	0.5 (0.37)	(1)
25 ≤ Disp. < 30	All power levels	2007 - 2013	11.0 (8.2)	5.0 (3.7)	0.5 (0.37)	(1)

(1) 40 CFR 94.8.
(2) 40 CFR 1042.101.

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 80.510(b).

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)) 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
56 ≤ KW < 130 (75 ≤ HP < 175)	2012
130 ≤ KW (175 ≤ HP)	2011

2. There is no time limit on use for emergency situations. 40 CFR 60.4211(f)(1).

3. The engine may be operated for the purpose of maintenance checks and readiness testing. 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.

5. If your emergency engine has a maximum engine power of more than 100 HP and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4211(f)(2)(ii) and (iii) or operates for the purposes specified in 40 CFR 60.4211(f)(3)(i), you must submit an annual report according to the requirements in 40 CFR 60.4214(d)(1) through (3). See 40 CFR 60.4214(d) 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP

Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP [(1) (2) (3) (4)]

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-057-1	EU-057-GEN-1	2660 Crosspark Rd Natural Gas Generator	107	10/1/2006
EP-069-1	EU-069-GEN-1	2656 Crosspark Rd Generator	80	2/1/2007
EP-072-1	EU-072-GEN-1	UI Capital Center Generator	268	12/1/2006
EP-330-1	EU-330-GEN-1	PRL Natural Gas Generator	60	1/1/2007

(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 engines listed are fueled by natural gas.
(4) All engine listed were manufactured prior to 01/01/2009

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(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

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, 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 JJJJ for spark ignition engines. No further requirements apply for this engine under subpart ZZZZ.

Authority for Requirement: 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 22.108(3)

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

Associated Equipment

Associated Emission Unit ID Numbers: See Table: New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-037-1	EU-037-GEN-1	Art Building West Generator	302	11/9/2010
EP-046-5	EU-046-GEN-3	IMU Generator - Flood Mitigation	335	03/14/2014
EP-068-1	EU-068-GEN-1	CRWC Generator	322	1/1/2010
EP-120-1	EU-120-GEN-1	Hancher Generator	302	4/17/2014
EP-391-7	EU-391-GEN-3	Mayflower Residence Hall Generator - Dewatering Wells	190	7/28/2013
EP-51	EU51-1	Aircare Generator	173	12/1/2010
EP-61	EU61-GEN-1	ACCF Natural Gas Generator	100	03/04/2014
EP-090-1	EU-090-GEN-1	Art Building Replacement Natural Gas Generator (150 kW)	259	11/11/2014
EP-125-1	EU-125-GEN-1	Voxman Music Building Natural Gas Generator (250 kW)	379	9/9/2014

(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 these emission points shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

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, 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 JJJJ for spark ignition engines. No further requirements apply for this engine under subpart ZZZZ.

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

NSPS Subpart JJJJ Requirements 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		
		NOx	HC + NOx	CO	VOC [2]	NOx	CO	VOC
25 < HP < 130	1/1/2009+	N/A	10	387	N/A	N/A	N/A	N/A
HP ≥ 130	1/1/2009+	2.0 [3]	N/A	4.0 [3]	1.0 [3]	160 [3]	540 [3]	86 [3]

[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.
[3] Owners and operators of 25 hp < engines < 100 hp manufactured prior to 1/1/2011, that were certified to those standards, may optionally choose to meet those standards.

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
500 < HP	Required	Every 8,760 hours or 3 years, whichever comes first

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(d)(1) and 4243(a).
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 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 must keep records of the documentation that these engines meet the applicable emission standards. 40 CFR 60.4245(a)(4).

<u>Operating and Recordkeeping Requirements (40 CFR 4243(d))</u>

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
25 < HP < 130	7/1/2008
130 ≤ HP < 500	1/1/2011
500 ≤ HP	7/1/2010

2. The engine may be operated for the purpose of maintenance checks and readiness testing a maximum of 100 hours/year. There is no time limit on use for emergency situations.
3. 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.
4. 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.
5. 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.
130 ≤ HP < 500	7/1/2011	
500 ≤ HP	7/1/2010	

NSPS Subpart JJJJ Requirements 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		
		NOx	HC + NOx	CO (2)	VOC (3)	NOx	CO	VOC
25 < HP < 130	1/1/2009+	N/A	10	387	N/A	N/A	N/A	N/A
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 O_2.
(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.

Maximum Engine Power	Initial Test	Subsequent Test
25 < HP ≤ 500	Required	Not required
500 < HP	Required	Every 8,760 hours or 3 years, whichever comes first

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(d)(1) and 4243(a).
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 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 must keep records of the 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
130 ≤ HP < 500	1/1/2011
500 ≤ HP	7/1/2010

2. The engine may be operated for the purpose of maintenance checks and readiness testing a maximum of 100 hours/year. There is no time limit on use for emergency situations.

3. 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.

4. 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.

5. 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.
130 ≤ HP < 500	7/1/2011	
500 ≤ HP	7/1/2010	

6. If you own or operate an emergency stationary SI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in 40 CFR 60.4243(d)(3)(i), you must submit an annual report according to the requirements in 40 CFR60.4245(e)(1) through (3). 40 CFR 60.4245.

Authority for Requirement: 40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(4)"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 22.108(3)

Emission Point ID Number: EP-418-4
(New (Post-June 12, 2006) Emergency Generators, Spark Ignition, < 500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-418-GEN-2
Emissions Control Equipment ID Number: NA
Emissions Control Equipment Description: NA
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-418-GEN-2
Emission Unit Description: IATL Generator – Flood Mitigation
Raw Material/Fuel: Natural Gas
Rated Capacity: 477

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(s): 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(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 14-A-472
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 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.

Operating Limits

Operating limits for these emission units shall be:

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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

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.

1. 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**
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 (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.*

2. 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: 40 CFR Part 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"

<u>NESHAP:</u>
This engine is of the source type regulated by 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: 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 (2076 acfm)
Exhaust Temperature (^{o}F): 1450
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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: See Table: Storage Tanks

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Storage Tanks

Table: Storage Tanks

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (gallons)
EP-22	EU22-1	Pappajohn Pavilion Fuel Tank	Diesel Fuel	15,000
EP-24	EU24-UST-1	PFP Fuel Tank	Diesel Fuel	15,000

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.

There are no emission limits at this time.

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

Operating Limits
Operating limits for these emission units shall be:

1. These tanks shall store only Diesel Fuel #1 or #2.

Authority for Requirement: DNR Construction Permits 99-A-582-S1 and 99-A-600-S1

Emission Point Characteristics
These emission points shall conform to the specifications listed below.

Table: Storage Tanks – Emission Point Characteristics

			Stack Characteristics				
Emission Point Number	Associated Emission Unit Number	Construction Permit No.	Height (feet)	Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (°F)	Discharge Style
EP-22	EU22-1	99-A-582-S1	3.5	2.5	100	Ambient	Downward Discharge
EP-24	EU24-UST-1	99-A-600-S1	71	2	100	Ambient	Downward Discharge

Authority for Requirement: DNR Construction Permits specified in Table: Storage Tanks–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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: See Table: Paint Booths

Associated Equipment
Associated Emission Unit ID Numbers: See Table: Paint Booths
Emissions Control Equipment ID Number: See Table: Paint Booths
Emissions Control Equipment Description: See Table: Paint Booths

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Table: Paint Booths

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Control Equipment Number	Control Equipment Description	Raw Material	Rated Capacity (gal/hr)
EP-160-20	EU-160-PNT-1	Paint Booth at MSSB	CE-160-1	Dry Filters	Paint	3
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 Number	Associated Emission Unit Number	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 (Construction Permit Number)
EP-160-20	EU-160-PNT-1	10%	0.01	2.14	5.00	5.00	07-A-1293
EP-15	EU15-1	40%[(1)]	0.01	N/A	N/A	N/A	94-A-250-S4

[(1)] An exceedence 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 exceedence. If exceedences 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 Booths-Operational Limits & Requirements

Emission Point Number	Associated Emission Unit Number	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 (DNR Construction Permit)
EP-160-20	EU-160-PNT-1	1,220 gal	8.2	N/A	8.2	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.	07-A-1293
EP-15	EU15-1	1,282 gal	7.8	N/A	N/A		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:

Process throughput:

For booth EU15-1 only:

1. Only one spray gun shall be operated at any one time.

Authority for Requirement: DNR Construction Permit 94-A-250-S4

Control equipment parameters:

For booth EU-160-PNT-1 only:

1. Maintain the filters according to manufacturer's specifications.

Authority for Requirement: DNR Construction Permit 07-A-1293

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

For booth EU15-1 only:

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

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (ºF)**	**Discharge Style**
EP-160-20	EU-160-PNT-1	07-A-1293	28	48	25,000	Ambient	Vertical Unobstructed
EP-15	EU15-1	94-A-250-S4	96.3	28	9,000	Ambient	Vertical

Authority for Requirement: DNR Construction Permits specified in Table: Paint Booths – 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: See Table: Pharmacy Tablet Manufacturing

Associated Equipment
Associated Emission Unit ID Numbers: See Table: Pharmacy Tablet Manufacturing
Emissions Control Equipment ID Number: See Table: Pharmacy Tablet Manufacturing
Emissions Control Equipment Description: See Table: Pharmacy Tablet Manufacturing

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Table: Pharmacy Tablet Manufacturing

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Control Equipment Number	Control Equipment Description	Control Equipment Number	Control Equipment Description	Raw Material	Rated Capacity (kg/hr)
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 CE-006-29 CE-006-15 CE-006-30 CE-006-16	Dry Pre-Filter Dry Pre-Filter HEPA Filter HEPA Filter Dry Pre-Filter	Various Pharmaceutical Materials	55.00
	EU-006-TAB-2	Pharmacy Tablet Manufacturing-Room 32A	CE-006-17	Dry Pre-filter			Various Pharmaceutical Materials	10.0
			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			Various Pharmaceutical Materials	10.0
			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			Various Pharmaceutical Materials	10.0
			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			Various Pharmaceutical Materials	10.0
			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			Various Pharmaceutical Materials	10.0
			CE-006-22	Dry Pre-filter				
			CE-006-6	Dry Pre-filter				
			CE-006-23	Dry Pre-filter				
			CE-006-9	HEPA Filter				
			CE-006-24	HEPA Filter				
	EU-007-TAB-7	Pharmacy Tablet Manufacturing Room 43E	CE-006-25	Dry Pre-filter			Various Pharmaceutical Materials	10.0
			CE-006-26	Dry Pre-filter				
			CE-006-7	Dry Pre-filter				
			CE-006-27	Dry Pre-filter				
			CE-006-8	HEPA Filter				
			CE-006-28	HEPA Filter				

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(s): 40 %[1]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

[1] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.53 lb/hr
Authority for Requirement: DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.53 lb/hr
Authority for Requirement: DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 1.5 tons/yr
Authority for Requirement: DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission units shall be:

Process throughput:

1. In accordance with programming of the exhaust fans, only two of the four exhaust fans (EP-006-4, EP-006-5, EP-006-6, and EP-006-7) used in the pharmaceutical manufacturing rooms shall be in operation at any one time.
2. The owner or operator shall follow any applicable operating requirements in NESHAP Subpart GGG.

Control equipment parameters:

1. The owner or operator shall conduct routine filter maintenance on the control equipment used in the tablet manufacturing facility

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall maintain records on the filter maintenance done on all control equipment used in the tablet manufacturing rooms.

B. 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.

C. 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).

D. The owner or operator shall maintain the following monthly records:

- The amount of VOC emitted from all batches and cleanup activities and
- The rolling twelve (12) month total amount of VOC emitted from all batches and cleanup activities.

E. The owner or operator shall submit a report that identifies any exceedances of the rolling twelve (12) month emission limitation for VOC. The report shall be submitted no later than thirty (30) days from the end of the month in which the exceedance had occurred.

F. The owner or operator shall maintain a log of:

- All emission units (i.e. storage tanks, process vents, equipment leaks, etc.) in each of the pharmaceutical tablet manufacturing rooms and

- 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.

G. The owner or operator shall follow any applicable operating condition monitoring and recordkeeping requirements in NESHAP Subpart GGG.

Authority for Requirement: DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

NSPS and NESHAP Applicability

These emission units are subject to Subparts A (*General Provisions*; 40 CFR §63.1 – 40 CFR §63.15) and GGG (*National Emission Standards for Pharmaceuticals Production*; 40 CFR §63.1250 – 40 CFR §63.1261) of the National Emission Standards for Hazardous Air Pollutants (NESHAP).

Authority for Requirement: 40 CFR 63 Subpart GGG
567 IAC 23.1(4)"bg"
DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-S4

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (ºF)**	**Discharge Style**
EP-006-4	See Pharmacy Tablet Manufacturing Table	99-A-943-S4	105.8	105	61,850	70	Vertical Unobstructed
EP-006-5		99-A-944-S4	105.8	105	61,850	70	Vertical Unobstructed
EP-006-6		99-A-945-S4	105.8	105	61,850	70	Vertical Unobstructed
EP-006-7		99-A-946-S4	105.8	105	61,850	70	Vertical Unobstructed

Authority for Requirement: DNR Construction Permits 99-A-943-S4, 99-A-944-S4, 99-A- 945-S4, 99-A-946-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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: See Table: Cooling Towers

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Cooling Towers

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Table: Cooling Towers

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP-308-2	EU-308-CT-1	WCCWP Cooling Tower 1	Cooling Water with Additives	912,000 gal/hr
EP-308-3	EU-308-CT-2	WCCWP Cooling Tower 2	Cooling Water with Additives	912,000 gal/hr

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 Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.33 tons/yr
Authority for Requirement: DNR Construction Permits 07-A-497, 07-A-498

Pollutant: Particulate Matter (PM)
Emission Limits: 0.33 tons/yr
Authority for Requirement: DNR Construction Permits 07-A-497, 07-A-498

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf
Authority for Requirement: 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.

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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.
2. The owner or operator shall maintain the MSDS for any additives used in the cooling tower.

Authority for Requirement: DNR Construction Permits 07-A-497, 07-A -498

<u>Emission Point Characteristics</u>
These emission points shall conform to the specifications listed below.

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (ºF)**	**Discharge Style**
EP-308-2	EU-308-CT-1	07-A-497	85.5	338	839,185 (per cell)	100	Vertical
EP-308-3	EU-308-CT-2	07-A-498	85.5	338	839,185 (per cell)	100	Vertical

Authority for Requirement: DNR Construction Permits 07-A-497, 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall

submit a request 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 22.108(3)

Emission Point ID Number: See Table: Boilers and Water Heaters

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Boilers and Water Heaters

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Table: See Table: Boilers and Water Heaters [(1) (2)]

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (MMBtu/hr)
EP-300-1	EU-300-BLR-1	Jefferson Building Boiler	4.4
EP-300-2	EU-300-BLR-2	Jefferson Building Boiler	4.4
EP-391-1	EU-391-BLR-1	Mayflower Boiler	6
EP-391-4	EU-391-BLR-2	Mayflower Boiler	6
EP-391-5	EU-391-BLR-3	Mayflower Boiler	2.4
EP-434-1	EU-434-BLR-1	Levitt Center Hot Water Boiler	1.9
EP-434-3	EU-434-BLR-2	Levitt Center Hot Water Boiler	1.9
EP-434-5	EU-434-BLR-3	Levitt Center Hot Water Boiler	1.9
EP-434-6	EU-434-BLR-5	Levitt Center Fulton Steam Boiler	1.26
EP-441-2	EU-441-BLR-2	Laundry Building Boiler #2	5.25
EP-441-17	EU-441-BLR-3	Laundry Building Boiler #3	4.0
EP-457-1	EU-457-WH-1	Hawkeye Tennis Water Heater	0.3
EP-457-2	EU-457-WH-2	Hawkeye Tennis Water Heater	0.3
EP-478-1	EU-478-BLR-1	RRH Boiler	1.45

(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 these emission points shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"(2)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 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.

NESHAP:
This equipment is of the source category subject to the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 40 CFR Part 63, Subpart DDDDD
567 IAC 23.1(4)"dd"

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 22.108(3)

Emission Point ID Number: EP-185-1

Associated Equipment

Associated Emission Unit ID Numbers: EU-185-LIME-1
Emissions Control Equipment ID Number: CE-185-1
Emissions Control Equipment Description: Filter Bag House

Emission Unit vented through this Emission Point: EU-185-LIME-1
Emission Unit Description: Water Plant Lime Conveying System
Raw Material/Fuel: Lime
Rated Capacity: 51,600 cf/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limits: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

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

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

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

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

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.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: EP-204-1

Associated Equipment

Associated Emission Unit ID Numbers: EU-204-INC-1, EU-204-INC-1A
Emissions Control Equipment ID Number: CE-204-1
Emissions Control Equipment Description: Afterburner

Emission Unit vented through this Emission Point: EU-204-INC-1
Emission Unit Description: Crematorium-Natural Gas Combustion
Raw Material/Fuel: Natural Gas
Rated Capacity: 1.4 MMBtu/hr

Emission Unit vented through this Emission Point: EU-204-INC-1A
Emission Unit Description: Crematorium-Pathological Waste Combustion
Raw Material/Fuel: Pathological Waste
Rated Capacity: 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: 567 IAC 23.4(12)"b"
DNR Construction Permit 87-A-156-S1

(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 exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
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: 567 IAC 23.4(12)"a"
DNR Construction Permit 87-A-156-S1

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"
DNR Construction Permit 87-A-156-S1

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission units shall be:

1. The incinerator, emission unit EU-204-INC-1, shall only combust pathological waste as defined in 40 CFR 60.51c.

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 (^oF): 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-14

Associated Equipment

Associated Emission Unit ID Numbers: EU14-1

Emission Unit vented through this Emission Point: EU14-1
Emission Unit Description: JCP Sterilizing Services
Raw Material/Fuel: Ethylene Oxide
Rated Capacity: 15.90 lb/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limits: 40 %[(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 99-A-580

[(1)] An exceedence 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 exceedence. If exceedences 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/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 99-A-580

Pollutant: Single Hazardous Air Pollutant (HAP)
Emission Limit(s): 10 tons/yr
Authority for Requirement: DNR Construction Permit 99-A-580

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

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. The facility is required to track the amount of ethylene oxide used by the sterilizer on a monthly basis.

2. the facility shall also keep records of the amount of ethylene oxide used on a rolling 12-month basis.

Authority for Requirement: DNR Construction Permit 99-A-580

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 117
Stack Opening, (inches, dia.): 24
Exhaust Flowrate (scfm): 8,000
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 99-A-580

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

IV. Facility Description and Equipment List – Power Plant

Facility Name: University of Iowa
Permit Number: 00-TV-002R2-M001

Facility Description: University (SIC 8221)

Equipment List

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	09-A-481-S2

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-PP27	EU-PP27	Emergency Diesel Generator	97-A-1035

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

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-240-1	EU-240-GEN-1	Jenbacher Model JGS420 Gas-fired IC Engines	09-A-395-S2
	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

D. Cooling Towers

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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
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

E. Boilers

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-239-1	EU-OD#2	Oakdale Boiler #2 (1)	78-A-023-S7
	OD#3	Oakdale Boiler #3 (1)	
	OD#4	Oakdale Boiler #4 (1)	
	BLR-5	Hurst Boiler # 5 (1)	
	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-S6 & PSD
EP-PP07	EU-PP07	Boiler No.11	95-A-438-P3 & PSD
EP-PP43	EU-PP43	Boiler T1	06-A-778-S3
EP-PP44	EU-PP44	Boiler T2	06-A-779-S3
EP-18	EU-18	Pomerantz Family Pavilion Boiler	09-A-197

F. Coal, Ash, and Sorbent Handling and Storage

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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
EP-PP12	EU-PP12	Coal Silo # 3	87-A-117-P2
EP-PP13	EU-PP13	Limestone Silo	94-A-199
EP-PP14a1	EU-PP14a	Ash Silo	PSD
EP-PP14a2	EU-PP14a	Ash Silo	
EP-PP14b	EU-PP14b	Ash Conveying	96-A-1125
EP-PP28	EU-PP28	Coal Unloading Pit	N/A

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
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

G. Biomass Handling and Storage

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-PP40	PP40	Biomass Silo Dust Collector	03-A-1149-S1
EP-PP41a Fug	PP41a	Biomass Unloading	03-A-1150-S1
EP-PP41	PP41b	Biomass Conveying	
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

H. Dry Sorbent Injection Silos

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP-PP53	EU-PP53	Dry Sorbent Injection Silo #1	15-A-283
EP-PP54	EU-PP54	Dry Sorbent Injection Silo #2	15-A-284

Equipment Listed as Insignificant Prior to PAL Permit Issuance

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-PP33	Parts Washer
EU-PP34	Maintenance Welding
EU-PP35	Shot Blast
EU-PP36F-1	Antifreeze Tank No.1 (2,200 gallons)
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-PP39a	Diesel Generator #7 Fuel Oil Tank #2 (550 gallons)
EU-PP43	Parts Washer
EU-PP44	Parts Washer
EU-PP45	Central Vacuum System
EU-PP47	Parts Washer
EU-PP51	Boiler T1 and T2 Brine Tank
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)]

(1) Located at the Oakdale Campus.

V. Emission Point-Specific Conditions – Power Plant

Facility Name: University of Iowa
Permit Number: **00-TV-002R2-M001**

Emission Point ID Number: EP-239-6 [New (Post-December 19, 2002) Emergency Generators, Compression Ignition, > 500 HP]

Associated Equipment

Associated Emission Unit ID Numbers: EU-239-GEN-2

Table 1

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (bhp)	Construction Date
EP-239-6	EU-239-GEN-2	1500 kW Emergency Generator	2260	03/01/2010

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 2

Emission Point Number	Associated Emission Unit Number	Opacity Limit 567 IAC 23.3(2)"d"	PM Limit (lb/hr) 23.1(2)" yyy"	PM_{10} Limit (lb/hr)	SO_2 (lb/MMBtu) 567 IAC 23.3(3)" b", 23.1(2)" yyy"	NO_x Limit (lb/hr) 567 IAC 23.1(2)" yyy"	CO Limit (lb/hr)	Authority for Requirement (Construction Permit Number)
EP-239-6	EU-239-GEN-2	40%[(1)(2)]	0.92	0.92	2.5	31.75	13.45	09-A-481-S2

[(1)] An exceedence 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 exceedence. If exceedences 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).

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

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, 2007, diesel fuel fired in Emergency Generator EU-239-GEN-2shall be limited to a maximum sulfur content of 500 ppm and a minimum centane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR§80.510(a).

G. 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 centane index of 40 or a maximum aromatic content of 35 percent by volume, per 40 CFR§80.510(b).

H. 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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (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.

iii. 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

iv. 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).

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: 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: Emission Point Characteristics

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit No.**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-239-6	EU-239-GEN-2	09-A-481-S2	50	16	4,771	764	Vertical Unobstructed

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PP27
(Existing (Pre-December 19, 2002) Emergency Generator, Compression Ignition, >500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-PP27

Emission Unit vented through this Emission Point: EU-PP27
Emission Unit Description: Emergency Diesel Generator (Existing, >500 HP)
Raw Material/Fuel: Diesel Fuel
Rated Capacity: 1300 gal/hr (2347 bhp)

Applicable Requirements

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

Pollutant: Opacity
Emission Limits: 20%
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 97-A-1035

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 97-A-1035

Pollutant: Sulfur Dioxide (SO_2)
Emission Limits: 2.5 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(3)"b"
DNR Construction Permit 97-A-1035

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

Operating Limits
Operating limits for these emission units shall be:

A. The fuel used by this source shall be limited to no. 2 diesel fuel.
B. Operation of this source shall not exceed 1500 hours per 12-month rolling period, rolled monthly.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

The owner or operator of the equipment shall maintain the following records:
1) Monthly hours of operation for this source.
2) During the initial 12 months of operation, cumulative hours of operation shall be determined each month of operation.
3) After the initial 12 months of operation, 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: 40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

<u>Emission Point Characteristics</u>
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 (^{o}F): 994
Discharge Style: Unknown
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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-240-1
(New (Post-December 19, 2002) Generators, Spark Ignition, >500 HP)

Associated Equipment

Associated Emission Unit ID Numbers: EU-240-GEN-1, EU-240-GEN-2
Emissions Control Equipment ID Number: CE-240-1
Emissions Control Equipment Description: CO Catalyst
Continuous Emissions Monitors ID Numbers: None

Emission Unit vented through this Emission Point: EU-240-GEN-1 and EU-240-GEN-2
Emission Unit Description: Jenbacher Model JGS420 Gas-fired IC Engines (1400 kW each)
Raw Material/Fuel: Natural Gas or Landfill Gas
Rated Capacity: 2016 bhp each

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-S2
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_{10})
Emission Limit(s): 0.4 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 09-A-395-S2
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.4 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 09-A-395-S2
567 IAC 23.3(3)"e"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.47 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 2.67 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 2.0 g/HP-hr (when combusting natural gas)
Emission Limit: 3.0 g/HP-hr (when combusting landfill gas)
Authority for Requirement: DNR Construction Permit 09-A-395-S2
40 CFR Part 60, Subpart JJJJ
567 IAC 23.1(2) "zzz"

Pollutant: Volatile Organic Compounds (VOC)
Emission limit: 1.46 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.0 g/HP-hr (when combusting natural gas)
Emission Limit: 1.0 g/HP-hr (when combusting landfill gas)
Authority for Requirement: DNR Construction Permit 09-A-395-S2
40 CFR Part 60, Subpart JJJJ
567 IAC 23.1(2) "zzz"

Pollutant: Carbon Monoxide (CO)
Emission Limit: 4.44 lb/hr (per engine)
Authority for Requirement: DNR Construction Permit 09-A-395-S2

Pollutant: Carbon Monoxide (CO)
Emission Limit: 4.0 g/HP-hr (when combusting natural gas)
Emission Limit: 5.0 g/HP-hr (when combusting landfill gas) [(2)]
Authority for Requirement: DNR Construction Permit 09-A-395-S2
40 CFR Part 60, Subpart JJJJ
40 CFR Part 63, Subpart ZZZZ
567 IAC 23.1(2) "zzz"
567 IAC 23.1(4) "cz"

[(2)] When burning natural gas: 93% reduction in CO emissions or a formaldehyde concentration of less than or equal to 14 ppmvd at 15% O_2. This limit applies during all periods of operation except for periods of startup, shutdown, or malfunction (40 CFR 63.6605(a)). This limit does not apply if the engine combusts landfill gas equivalent to 10% or more of the gross heat input on an annual basis. (40 CFR 63.6600(c)).

Pollutant: Formaldehyde
Emission Limit: 14 ppmvd at 15% O_2 [3]
Authority for Requirement: DNR Construction Permit 09-A-395-S2
40 CFR Part 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

[3] When burning natural gas: 93% reduction in CO emissions or a formaldehyde concentration of less than or equal to 14 ppmvd at 15% O_2. This limit applies during all periods of operation except for periods of startup, shutdown, or malfunction (40 CFR 63.6605(a)). This limit does not apply if the engine combusts landfill gas equivalent to 10% or more of the gross heat input on an annual basis. (40 CFR 63.6600(c)).

Operational Limits & Requirements

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

Federal Standards

A. New Source Performance Standards (NSPS):
The following subparts apply to the emission unit(s) in this permit:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU 240-GEN-1 and EU 240-GEN-2	A	General Conditions	NA	23.1(2)	§60.1 – §60.19
	JJJJ	Stationary Spark Ignition Internal Combustion Engines	NA	23.1(2) "zzz"	§60.1 – §60.19

B. National Emission Standards for Hazardous Air Pollutants (NESHAP):
The following subparts apply to these emission units:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU 240-GEN-1 and EU 240-GEN-2	A	General Conditions	NA	23.1(3)	§63.1 – §63.15
	ZZZZ	Stationary Reciprocating Internal Combustion Engines	NA	23.1(4) "cz"	§63.6580 – §63.6675

Authority for Requirement: 40 CFR Part 60, Subpart JJJJ
40 CFR Part 63, Subpart ZZZZ
567 IAC 23.1(2)"zzz"
567 IAC 23.1(4) "cz"
DNR Construction Permit 09-A-395-S2

Operating Requirements and Associated Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

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 or landfill gas. If the engine does not combust landfill gas equivalent to 10% or more of the gross heat input on an annual basis, the applicable portions of Subpart ZZZZ, Table 2b shall be followed. The owner or operator shall keep monthly records of the amount of gross heat input to the engines due to pipeline quality natural gas and due to landfill gas and update the twelve month rolling total for each on a monthly basis.

Authority for Requirement: DNR Construction Permit 09-A-395-S2

NSPS and NESHAP Applicability

The units are subject to the NSPS standard, Subpart JJJJ, Standards of Performance for *Stationary Spark Ignition Internal Combustion Engines.* They are also subject to the NESHAP, Subpart ZZZZ, National Emission Standards for *Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.*

Authority for Requirement: 40 CFR Part 60, Subpart JJJJ
40 CFR Part 63, Subpart ZZZZ
567 IAC 23.1(2)"zzz"
567 IAC 23.1(4) "cz"
DNR Construction Permit 09-A-395-S2

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): 3922 (per engine)
Exhaust Temperature (^{o}F): 877
Discharge Style: Vertical, Unobstructed
Authority for Requirement: DNR Construction Permit 09-A-395-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 flowrate 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
Stack Test to be Completed:

- Within sixty (60) days after achieving the maximum production rate and no later than one hundred eighty (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.
- Within ninety (90) days of the issuance of this permit if there is no physical modification to any emission units or control equipment.

Frequency:
For CO; as required in Subpart JJJJ or ZZZZ, Table 3 [1, 2]
For Formaldehyde; as required in Subpart ZZZZ, Table 3[1, 2]

[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.

Test Method – 40 CFR 60, Appendix A, Method 10 for CO
Test Method – 40 CFR 60, Appendix A, Method 18 for Formaldehyde
Authority for Requirement: DNR Construction Permit 09-A-395-S2
40 CFR 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 22.108(3)

Emission Point ID Number: See Table: New (Post-December 19, 2002) Spark Ignition, >500 HP

Associated Equipment

Associated Emission Unit ID Numbers: See Table: New (Post-December 19, 2002) Spark Ignition, >500 HP

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

Emission Point Number	Associated Emission Unit Number	Emission Unit Description	Rated Capacity (kW)	Construction Permit Number	Emissions Control Equipment Number	Emissions Control Equipment Description
PP52.1	EU-PP52.1	Natural Gas-Fired Generator	2055	12-A-508	CE-52.1	Oxidation Catalyst
PP52.2	EU-PP52.2	Natural Gas-Fired Generator	2055	12-A-509	CE-52.2	Oxidation Catalyst
PP52.3	EU-PP52.3	Natural Gas-Fired Generator	2055	12-A-510	CE-52.3	Oxidation Catalyst
PP52.4	EU-PP52.4	Natural Gas-Fired Generator	2055	12-A-511	CE-52.4	Oxidation Catalyst

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(s): 40% [(1)]
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.3(2)"d"

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 1.0 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.1(2)"zzz"

Pollutant: Volatile Organic Carbons (VOC)
Emission Limit(s): 0.7 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.1(2)"zzz"

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 2.0 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511
567 IAC 23.1(2)"zzz"

Other Emission Limits

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.02 lb/MMBtu
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.02 lb/MMBtu
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.005 lb/MMBtu
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.75 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant: Volatile Organic Carbons (VOC) including Formaldehyde
Emission Limit(s): 0.87 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 1.0 g/HP-hr
Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission units shall be:

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.
B. Any other operating limits not listed here but are part of 40 CFR Part 60 Subpart JJJJ shall also be maintained.

Authority for Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

NSPS and NESHAP Applicability

NSPS:

These emission units are 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) and is also subject to the requirements of 567 IAC 23.1(2)"zzz".

Authority for Requirement: 40 CFR 60 Subpart JJJJ
567 IAC 23.1(2)"zzz"
DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

		Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**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 Requirement: DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 Requirement – DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant –Volatile Organic Compounds (VOC)
Stack Test to be Completed - Every 8760 hours or 3 years, whichever comes first rate
Test Method – 40 CFR 60, Appendix A, Method 25A
Authority for Requirement – DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

Pollutant – Carbon Monoxide (CO)
Stack Test to be Completed - Every 8760 hours or 3 years, whichever comes first rate
Test Method – 40 CFR 60, Appendix A, Method 10
Authority for Requirement – DNR Construction Permits 12-A-508, 12-A-509, 12-A-510, 12-A-511

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 22.108(3)

Emission Point ID Number: EP-240-2

Associated Equipment

Associated Emission Unit ID Numbers: EU 240-CT-1
Emissions Control Equipment ID Number: CE-240-2
Emissions Control Equipment Description: Drift Eliminator

Units vented through this Emission Point: EU 240-CT-1
Emission Unit Description: Cooling Tower 1 (1 cell)
Raw Material/Fuel: Cooling Water with Additives
Rated Capacity: 1800 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.

Pollutant: Opacity
Emission Limits: 40 % [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 09-A-396-S2

[(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 (PM_{10})
Emission Limit(s): 0.15 lb/hr
Authority for Requirement: DNR Construction Permit 09-A-396-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.15 lb/hr; 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 09-A-396-S2

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

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-240-3, EP-026-2, EP-026-3

Associated Equipment

Associated Emission Unit ID Numbers: See Table: Oakdale Campus Cooling Towers
Emissions Control Equipment ID Number: CE-240-3, CE-026-2, CE-026-3
Emissions Control Equipment Description: Three (3) Mist Eliminators

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Table: Oakdale Campus Cooling Towers

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP-240-3	EU-240-CT-2	Cooling Tower 2	Cooling Water with Additives	2,100 gal/min
EP-026-2	EU-026-CT-1	UHL Cooling Tower 1		1,800 gal/min
EP-026-3	EU-026-CT-2	UHL Cooling Tower 2		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.

Pollutant: Opacity
Emission Limits: 40 % (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permits 15-A-168, 15-A-169 and 15-A-170

(3) 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_{10})
Emission Limit(s): 0.18lb/hr
Authority for Requirement: DNR Construction Permits 15-A-168

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf; 0.18 lb/hr
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permits 15-A-168

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.16 lb/hr
Authority for Requirement: DNR Construction Permits 15-A-169, 15-A-170

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf; 0.16 lb/hr
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permits 15-A-169, 15-A-170

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission unit shall be:

A. 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.
B. 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.
C. 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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 Requirement: DNR Construction Permits 15-A-168, 15-A-169 and 15-A-170

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

		Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-240-3	EU-240-CT-2	18.96	132	199,413	91	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 Requirement: DNR Construction Permits 15-A-168, 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-239-1

Associated Equipment
Associated Emission Unit ID Numbers: OD#2, OD#3, OD#4, 239-BLR-5 and 239-GSFR-1
Emissions Control Equipment ID Number: CE-239-1 (Only for BLR-5)
Emissions Control Equipment Description: Ultra Temp Hot Gas Filtration (SCR, filter)

Units vented through this Emission Point: OD#2, OD#3, OD#4, 239-BLR-5 and 239-GSFR-1
Emission Unit Description: Oakdale Boiler #2, #3, #4, Gas/Biomass Hurst Boiler, and AgBiopower Gasifier
Raw Material/Fuel: Natural Gas Only for boilers #2, # 3 and # 4.
See Operational Limits # 5 and # 6 below for a list of raw materials for 239-BLR-5 and 239-GSFR-1.
Rated Capacity: 32.1, 32.1, 20.3, 27.5 and 2.5 MMBtu/hr, respectively

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: 567 IAC 23.3(2)"d"
DNR Construction Permit 78-A-023-S8

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Emission Limit for Natural Gas Boilers #2, # 3 and # 4 (Combined)

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.76 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Particulate Matter (PM)
Emission Limit: 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"(3)
DNR Construction Permit 78-A-023-S8

Pollutant: Particulate Matter (PM)
Emission Limit: 0.76 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 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-S8

<u>Emission Limits for Hurst Boiler Only</u>

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.073 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 78-A-023-S8

Pollutant: Particulate Matter (PM)
Emission Limit: 1.073 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 30.0 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 78-A-023-S8

[(2)] Sulfur dioxide emission due to solid fuels only – see Reporting and Recordkeeping below for details.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 4.13 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Carbon Monoxide (CO)
Emission Limit: 4.13 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Pollutant: Hydrogen Chloride (HCl)
Emission Limit: 2.0 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-023-S8

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner.

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:
     - Oat hulls
     - Wood chips (poplar, or untreated and unpainted wood chips)
     - Wood pellets
     - Corn cobs
     - Corn seed
     - 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*

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 5.A, 5.B. or 5.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 Hurst Boiler may operate a maximum of 7,700 hours per twelve month rolling period.
I. The owner or operator shall record the hours of operation for the Hurst boiler, and update the twelve month rolling total hours of operation on a monthly basis.
J. 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.
K. 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.
L. The owner or operator shall monitor and record the pressure drop across the control equipment (CE 239-1) on a weekly basis.
M. The owner or operator shall monitor and record the reagent injection rates for the control equipment (CE 239-1) on a weekly basis.
N. The owner or operator shall notify the DNR as required in 40 CFR 60.48c(a) for the Hurst Boiler.
O. 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.
P. Sulfur dioxide emissions shall be updated per twelve month rolling total (sum of emissions from all fuels used in EU 239-BLR-5) on a monthly basis.

Authority for Requirement: DNR Construction Permit 78-A-023-S8

NSPS & NESHAP Applicability

The natural gas boilers (OD#2, OD#3 and OD#4) are not currently subject to a New Source Performance Standard (NSPS) at this time, as they were constructed prior to the applicability date of June 9, 1989 and not subsequently modified as to increase emissions.

Authority for Requirement: DNR Construction Permit 78-A-023-S8

The Hurst Boiler is subject to the following federal regulation: NSPS, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. [40 CFR Part 60, Subpart Dc]

Authority for Requirement: 40 CFR Part 60, Subpart Dc
DNR Construction Permit 78-A-023-S8
567 IAC 23.1(2) "lll"

The four boilers are of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters [40 CFR Part 63, Subpart DDDDD]

Authority for Requirement: 40 CFR 63 Subpart DDDDD
DNR Construction Permit 78-A-023-S8
567 IAC 23.1(4)"dd"

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
19,724 acfm for Hurst Boiler
Exhaust Temperature (^{o}F): 460
Discharge Style: Vertical unobstructed
Authority for Requirement: DNR Construction Permit 78-A-023-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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 Required for Hurst boiler # 5 only, when combusting solid fuel.

Stack Testing:

Pollutant – PM
1st Stack Test to be Completed – January 19, 2018
Test Method –40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M, Method 202
Authority for Requirement – 567 IAC 22.108(3)

Pollutant – NO_x
1st Stack Test to be Completed – January 19, 2018
Test Method – 40 CFR 60, Appendix A, Method 7E
Authority for Requirement – 567 IAC 22.108(3)

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test 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** ☒

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.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: EP-PP03

Associated Equipment
Associated Emission Unit ID Number: EU-PP03
Emissions Control Equipment ID Number: CE-PP03
Emissions Control Equipment Description: Low NO_x Burner
Continuous Emissions Monitors ID Numbers: ME-08a (NO_x) and ME-08b(CO_2)

Emission Unit vented through this Emission Point: EU-PP03
Emission Unit Description: Boiler No.7
Raw Material/Fuel: Natural Gas Only
Rated Capacity: 218.0 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: 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 (SO_2)
Emission Limit(s): 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: 40 CFR 60 Subpart Db
DNR Construction Permit 91-A-064
567 IAC 23.1(2) "ccc"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 21.8 lb/hr based upon a steaming rate of 150,000 lb/hr and a heat input of 218 MMBtu/hr
Authority for Requirement: DNR Construction Permit 91-A-064

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

Operating Limits

Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

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

Continuous Emissions Monitoring:
Pollutant - Nitrogen Oxides (NOx)
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 (CO_2)
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 22.108(3)

Emission Point ID Number: EP-PP04

Associated Equipment
Associated Emission Unit ID Number: EU-PP04
Emissions Control Equipment ID Number: CE-PP04
Emissions Control Equipment Description: Low NO_x Burner
Continuous Emissions Monitors ID Numbers: ME-09a (NO_X) and ME-09b (CO_2)

Emission Unit vented through this Emission Point: EU-PP04
Emission Unit Description: Boiler No.8
Raw Material/Fuel: Natural Gas Only
Rated Capacity: 218.0 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: 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 (SO_2)
Emission Limit(s): 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: 40 CFR 60 Subpart Db
DNR Construction Permit 91-A-063
567 IAC 23.1(2) "ccc"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 21.8 lb/hr based upon a steaming rate of 150,000 lb/hr and a heat input of 218 MMBtu/hr
Authority for Requirement: DNR Construction Permit 91-A-063

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

NSPS and NESHAP Applicability

NSPS:
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"

NESHAP:
This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 40 CFR Part 63, Subpart DDDDD
567 IAC 23.1(4)"dd"

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

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

Monitoring Requirements

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

Continuous Emissions Monitoring:

Pollutant - Nitrogen Oxides (NOx)
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 (CO_2)
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** ☒

Emission Point ID Number: EP-PP06

Associated Equipment

Associated Emission Unit ID Number: EU-PP06

Emissions Control Equipment ID Number	Emissions Control Equipment Description	Continuous Emissions Monitors ID Numbers
CE-PP06A	Low NOx Burners & Flue Gas Recirculation (when firing on natural gas)	None
CE-PP27	Multiclones	None
CE-PP06B	Baghouse	ME-06-CO2 ME-06-SO2 ME-06-Opacity ME-06-NOx ME-06-CO
CE-PP06C	Dry Sorbent Injection	None

Emission Unit vented through this Emission Point: EU-PP06
Emission Unit Description: Boiler No.10
Raw Material/Fuel: Natural Gas, Biomass, Coal, Tire Derived Fuel (TDF), Energy Pellets
Rated Capacity: 247 MMBtu/hr with coal; 218 MMBtu/hr on natural gas

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 75-A-282-S6

(1) An exceedence 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 exceedence. If exceedences 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-S6

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 17.13 lb/hr
Authority for Requirement: DNR Construction Permit 75-A-282-S6

Pollutant: Particulate Matter (PM)
Emission Limit: 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"
DNR Construction Permit 75-A-282-S6

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 627.14 lb/hr [(2)]
Authority for Requirement: DNR Construction Permit 75-A-282-S6

[(2)] 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 ppm_v 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-S6

Pollutant: Carbon Monoxide (CO)
Emission Limit: 123.8 lb/hr
Authority for Requirement: DNR Construction Permit 75-A-282-S6

<u>Operational Requirements with Associated Monitoring and Recordkeeping</u>

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner.

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:
     - Sawdust
     - Wood chips
     - Brush
     - Leaves
     - 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:

(4) 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.).

(5) A copy of the most recent ultimate and proximate analysis for Sustainable Energy Pellets (not required for each shipment).

(6) The heat content (in BTU/lb) of each solid fuel (i.e. coal, TDF, and approved alternative fuel). The owner or operator shall either

(c) Obtain documentation from the supplier of the fuel showing the heat content of the fuel in BTU/lb; or

(d) 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 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:

(i) Record the amount (in pounds or tons) of coal combusted in this emission unit (EU PP06) during that day;

(ii) Record the amount (in pounds or tons) of TDF blended with the coal during that day; and

(iii) Record the amount (in pounds or tons) of approved alternative fuels listed in Condition 5.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 total amount of approved alternative fuels combusted from the list in Condition A. shall not exceed 380,262 MMBTU per rolling twelve (12) months. The owner or operator shall:

(a) Determine the total heat input of approved alternative fuels (in MMBTU/month) combusted in this emission unit (EU PP06) for each month of operation; and

(b) Determine the cumulative amount of heat input of approved alternative fuels (in MMBTU/yr) combusted in this emission unit (EU PP06) on a rolling twelve (12) month basis for each month of operation.

E. The maximum heat input of this emission unit (EU PP006) 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:

(a) Calculate and record the daily average hourly heat input to the emission unit (EU PP006) within ten (10) days of the end of each calendar month. This calculation shall be on the daily fuel consumption rates recorded for Conditions C.(1)(i) – C.(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.

F. The amount of natural gas combusted in this emission unit (EU PP06) shall not exceed 772.5 million cubic feet (ft^3) of natural gas per rolling twelve (12) month period. The owner or operator shall:

(1) Determine the total amount of natural gas (in cubic feet/month) combusted in this emission unit (EU EU-PP06) for each month of operation; and

(2) Determine the cumulative amount of natural gas (in cubic feet/year) combusted in this emission unit (EU EU-PP06) on a rolling twelve (12) month basis for each month of operation.

G. 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:

- 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);
- Any issues identified during the inspection and the date each issue was resolved;
- Any issues addressed during the maintenance activities and the date each issue was resolved;
- Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 75-A-282-S6

NSPS and NESHAP Applicability

NSPS:

This unit is of the source type that is regulated by the New Source Performance Standard (NSPS) for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60 Subpart Db; 567 IAC 23.1(2)"ccc"). However, to be subject to this standard a unit must be constructed, reconstructed or modified after June 19, 1984. This unit was constructed prior to this date. The unit was modified in 2001 with the replacement of the economizer and the addition of the air pre-heater. However, to become subject to this standard, the modification must result in an increase in the short term emission rate of a pollutant regulated by the standard. There is no evidence at this time that the modifications to the unit in 2001 resulted in an increase in the short term emission rate from this unit. Therefore, this physical change to the unit was determined to not be a modification as defined in the NSPS program. This modification did not require a capital expenditure of greater than 50% of the cost of a new unit. Therefore, this physical change did not constitute reconstruction of the unit. Therefore, at this time, this unit is not subject to this requirement.

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

NESHAP:
This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 40 CFR Part 63, Subpart DDDDD
567 IAC 23.1(4)"dd"

This emission unit has been granted a one-year compliance extension to comply with the Industrial, Commercial, and Institutional Boilers and Process Heaters Standard (Boiler MACT) 40 CFR 63 Subpart DDDDD. The extended date of compliance is now September 30, 2016.

Authority for Requirement: EPA Region VII Compliance Extension (See Appendix B)

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 (^{o}F): 330
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-282-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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-S6

Pollutant – Particulate Matter (PM_{10})
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-S6

(1) Testing is required within one hundred twenty (120) days of introducing an approved fuel from the list in Operating Limits and 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 fuel from the list in Operating Limits and Requirement 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:

- *SO_2:*
  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 (SO_2) 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 SO_2 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.

- *O_2 or CO_2:*
  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 (O_2) or carbon dioxide (CO_2) content of the flue gases at each location where SO_2 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:

(4) 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.

(5) 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.

(6) For each hour of missing emission data (NO_x and CO), the owner or operator shall substitute data by:

(x) 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:

(g) 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.

(h) 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.

(xi) 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:

(g) 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.

(h) 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.

(xii) 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-S6

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 22.108(3)

Compliance Assurance Monitoring (CAM) Plan for Boiler 10 (EP-PP06)

BACKGROUND

A. Emissions Unit:
Description: Boiler No.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-S6
Particulate emission limit: 0.6 lb/MMBtu PM; 17.13 lb/hr PM_{10}; 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.

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 5 to 10 inches of water. Excursions trigger an inspection, corrective action and a recordkeeping requirement.	An excursion is defined as any exceedence 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 5 inches of water or greater that 10 inches of water across the baghouse, or a six minute opacity average greater than 10% 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 manufactures 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 No.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-S5
Particulate emission limit: 0.6 lb/MMBtu PM; 17.13 lb/hr PM_{10}; 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	Physical Inspections of multiclone system
B. Measurement Approach	Inspection of sight glasses and vacuum gauges to ensure ash is flowing properly.
C. Indicator Range	Corrective action measures will be implemented on the occurrence of an inspection indicating no flow from the ash hoppers below the multiclones. The appropriate measures for remediation will be implemented within 8 hours.
D. Performance Criteria 1. Data Representativeness	Periodic observations of the site glasses and the ash vacuum gauge to ensure the multiclones and ash hoppers have not become plugged.
2. Recordkeeping and Reporting (Verification of Operational Status)	Record the inspection of sight glasses and any corrective actions taken.
3. QA/QC Practices/Criteria	All instruments and control equipment will be calibrated, maintained, and operated according to the manufacturer's specifications.
4. Monitoring Frequency	Physical inspections annually.

	Each Major Scheduled Unit Outage Lasting Four or More Weeks: Clean multiclone spinner vanes. Inspect for wear on rings and spinner vanes. If worn rings and/or spinner vanes are detected, the appropriate measures for remediation will be implemented in a timely manner.
5. Data Collection Procedures	Maintenance and inspection information is maintained through a computerized maintenance system (AIM).
6. Averaging Period	None.

Emission Point ID Number: EP-PP07

Associated Equipment

Associated Emission Unit ID Number: EU-PP07
Emissions Control Equipment ID Number: CE-PP28, CE-PP07A & CE-PP07
Emissions Control Equipment Description: Limestone Injection (CE CE-PP28), Dry Sorbent Injection (CE CE-PP07A), and Baghouse (CE CE-PP07)
Emissions Control Equipment ID Number: CE-PP28, CE-PP07A, CE-PP07
Emissions Control Equipment Description: Limestone Injection, Dry Sorbent Injection, and Baghouse
Continuous Emissions Monitors ID Numbers: ME-07-SO2, ME-07-NOx, ME-07-Opacity and ME-07-CO2

Emission Unit vented through this Emission Point: EU-PP07
Emission Unit Description: Boiler No.11, Coal-fired Circulating Fluidized Bed
Raw Material/Fuel: Coal, Natural Gas, Oat Hulls, Clean Cellulosic Biomass
Rated Capacity: 223.0 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.

BACT Emission Limits

Pollutant: Opacity
Emission Limit: 10 % (1)
Authority for Requirement: DNR Construction Permit 95-A-438-P3
(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.

Pollutant: Particulate Matter (PM) Federal
Emission Limit: 29.3 tons/yr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Particulate Matter (PM) Federal
Emission Limit: 0.03 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 977 tons/yr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 1.0 lb/MMBtu; 90% reduction [(2)]
Authority for Requirement: DNR Construction Permit 95-A-438-P3

[(2)] The limit is 90% reduction (or greater) of the potential SO_2 emission rate. The potential SO_2 emission rate means the theoretical emissions (lb/MMBTU heat input) that would result from the combustion of the fuel in the boiler without SO_2 adsorption. There shall be no crediting for fuel pretreatment. The following equation shall be used:

$$\% \text{ Reduction } (\%R) = 100 \times \left(1.0 - \frac{E_{SO2}}{I_S}\right)$$

The standard is expressed as a thirty (30) day rolling average that includes all periods of operation including periods of SSM.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 391 tons/yr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 0.40 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Carbon Monoxide (CO)
Emission Limit: 0.30 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Fluorides (F)
BACT Emission Limit: 0.004507 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Beryllium (Be)
BACT Emission Limit: 0.0000069 lb/MMBtu
Authority for Requirement: DNR Construction Permit 95-A-438-P3

NSPS Emission Limits

Pollutant: Opacity
Emission Limit: 20 %
Authority for Requirement: DNR Construction Permit 95-A-438-P3
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Particulate Matter (PM) Federal
Emission Limit: 22 ng/J
Authority for Requirement: DNR Construction Permit 95-A-438-P3
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 87 ng/J; 90% reduction [2]
Authority for Requirement: DNR Construction Permit 95-A-438-P3
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

[2] The limit is 90% reduction (or greater) of the potential SO_2 emission rate. The potential SO_2 emission rate means the theoretical emissions (lb/MMBTU heat input) that would result from the combustion of the fuel in the boiler without SO_2 adsorption. There shall be no crediting for fuel pretreatment. The following equation shall be used:

$$\% \text{ Reduction } (\%R) = 100 \times \left(1.0 - \frac{E_{SO2}}{I_S}\right)$$

The standard is expressed as a thirty (30) day rolling average that includes all periods of operation including periods of SSM.

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 260 ng/J
Authority for Requirement: DNR Construction Permit 95-A-438-P3
40 CFR 60 Subpart Db
567 IAC 23.1(2)"ccc"

Other Emission Limits

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 11.15 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Particulate Matter (PM) Federal
Emission Limit: 6.83lb/hr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 223 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 88.9 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

Pollutant: Carbon Monoxide (CO)
Emission Limit: 66.7 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-438-P3

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

Operating Limits
Operating limits for these emission units shall be:

A. This emission unit 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.

B. 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.

C. The maximum amount of oat hulls combusted shall not exceed 80% (by weight) on an hourly average basis.

D. 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
   i. The frequency shall be at least once every two (2) weeks <u>and</u> whenever the owner or operator changes the coal supply.
   ii. 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.
   iii. Each composite sample shall meet the sampling requirements for special purpose sampling of ASTM D2234-76.
   iv. The composite sample collection classification shall meet Type 1, Condition A, B, or C, with systematic spacing, as defined by ASTM D2234-76.
   v. The composite sample shall be collected as close to an “as-fired” condition as practicable.
   vi. 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.
   vii. 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.
   viii. 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.
   ix. 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) of Condition 10a.
   x. 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.

xi. 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.

E. On a calendar-quarter basis the owner or operator shall submit a report of the following to the permitting authority:
   - Each SO_2 and NO_x emission rate in excess of the BACT emission limit.
   - Each excess opacity reading.,
   - Each twenty-four (24) hour SO_2 inlet concentration (daily),
   - Each twenty-four (24) hour SO_2 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).

F. 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.

G. The owner or operator shall conduct an inspection of the emission unit (EU EU-PP06) 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.

Authority for Requirement: DNR Construction Permit 95-A-438-P3

Reporting & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. 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.

B. 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.

C. Per 40 CFR §60.49b(f), the owner or operator shall maintain records of opacity.

D. 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 NO_2 (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.

E. 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 SO_2 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 SO_2 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 SO_2 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 SO_2 or diluent (O_2 or CO_2) 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).

F. 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.

G. 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 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-P3

NSPS and NESHAP Applicability

NSPS:
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: 40 CFR 60 Subpart Db
DNR Construction Permit 95-A-438-P3

NESHAP:
This equipment is of the source category affected by the following federal regulation: *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters* [40 CFR Part 63 Subpart DDDDD].

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

This emission unit has been granted a one-year compliance extension to comply with the Industrial, Commercial, and Institutional Boilers and Process Heaters Standard (Boiler MACT) 40 CFR 63 Subpart DDDDD. The extended date of compliance is now September 30, 2016.

Authority for Requirement: EPA Region VII Compliance Extension (See Appendix B)

<u>Emission Point Characteristics</u>
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 (^oF): 325
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 95-A-438-P3

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 amount of *"clean cellulosic biomass"* 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-P3

Pollutant – Particulate Matter (PM_{10})
Stack Test to be Completed: Within one hundred twenty (120) days of starting to increase the amount of *"clean cellulosic biomass"* 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-P3

(1) The owner or operator shall notify the Department sixty (60) days prior to proposing to increase the amount of *"clean cellulosic biomass"* by more than 10% (by heat input) from the rate previously tested which is 3% as of the date of the issuance of permit 95-A-438-P2. A new stack test shall be conducted within one hundred twenty (120) days of starting to increase the amount of *"clean cellulosic biomass"* to the new mixture 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 SO_2, 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 SO_2, 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 SO_2 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 SO_2 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 (SO_2 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 SO_2 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 SO_2, 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 SO_2 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-P3

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 22.108(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-P3
Particulate emission limit:	0.03 lb/MMBtu, 6.83 lb/hr PM Federal; 11.15 lb/hr PM_{10}
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.

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 5 to 10 inches water. Excursions trigger an inspection, corrective action and a recordkeeping requirement.	An excursion is defined as any exceedence 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 Critical 1. Data Representativeness	An observation of the differential pressure below 5 inches of water or greater than 10 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
Associated Emission Unit ID Numbers: EU-PP43 and EU-PP44
Emissions Control Equipment ID Number: CE-PP43 and CE-PP44
Emissions Control Equipment Description: Low NOx Burners

Emission Units vented through these Emission Points: EU-PP43 and EU-PP44
Emission Unit Description: Boiler T1 and Boiler T2
Raw Material/Fuel: Natural Gas
Rated Capacity: 93 MMBtu/hr each (93,000 cf/hr)

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.91 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Particulate Matter (PM)
Emission Limit: 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"
DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Particulate Matter (PM)
Emission Limit: 0.91 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"
DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.055 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S2 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 4.20 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 4.80 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-779-S3 (PP44)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 2.00 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Pollutant: Carbon Monoxide (CO)
Emission Limit: 6.00 lb/hr
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. This emission unit shall combust only natural gas.
B. The heat input of boiler TI shall not exceed 77 MMBtu/hr (daily average). The heat input of boiler T2 shall not exceed 72 MMBtu/hr (daily average).

Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. Per 40 CFR §60.40c(g)(1), the owner or operator shall record and maintain records of the amount of each fuel combusted during each operating day. As an alternative to this requirement per 40 CFR §60.40c(g)(2) and 40 CFR §60.40c(g)(3), the owner or operator may elect to either:
   i. record and maintain records of the amount of each fuel combusted during each calendar month [See 40 CFR §60.40c(g)(2)] or
   ii. record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month [See 40 CFR §60.40c(g)(3)].
B. The facility shall keep the following daily records:
   i. The date
   ii. The number of hours each boiler (EP PP43 and EP PP44) has run for that day
   iii. The amount of natural gas combusted in for each boiler (EP PP43 and EP PP44) for that day
   iv. The BTU content of the natural gas combusted
   v. The average hourly heat input for each boiler (EP PP43 and EP PP44) for that day

Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)

NSPS and NESHAP Applicability

NSPS:
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 Requirement: 40 CFR Part 60, Subpart Dc
DNR Construction Permits 06-A-778-S3 (PP43) and
06-A-779-S3 (PP44)
567 IAC 23.1(2) "lll"

NESHAP:
These units are of the source category affected by the following federal regulation: *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* [40 CFR Part 63 Subpart DDDDD].
Authority for Requirement: 40 CFR Part 63 Subpart DDDDD
567 IAC 22.108(3)
567 IAC 23.1(4)"dd"

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 (^{o}F): 600
Discharge Style: Vertical unobstructed
Authority for Requirement: DNR Construction Permits 06-A-778-S3 (PP43) and 06-A-779-S3 (PP44)

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Numbers: EP-18

Associated Equipment
Associated Emission Unit ID Numbers: EU-18
Emissions Control Equipment ID Number: CE-18
Emissions Control Equipment Description: Low NOx Burner and Flue Gas Recirculation

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Emission Unit vented through this Emission Point: EU-18
Emission Unit Description: Pomerantz Family Pavilion Boiler
Raw Material/Fuel: Natural Gas
Rated Capacity: 60.4 MMBtu/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 09-A-197

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.46 lb/hr
Authority for Requirement: DNR Construction Permits 09-A-197

Pollutant: Particulate Matter (PM)
Emission Limit: 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"
DNR Construction Permits 09-A-197

Pollutant: Particulate Matter (PM)
Emission Limit: 0.46 lb/hr
Authority for Requirement: DNR Construction Permits 09-A-197

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"
DNR Construction Permits 09-A-197

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.04 lb/hr
Authority for Requirement: DNR Construction Permits 09-A-197

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.

Operating Limits
Operating limits for these emission units shall be:

Process throughput:

1. This emission unit is limited to firing on natural gas.

Authority for Requirement: DNR Construction Permit 09-A-197

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

The owner/operator shall maintain the following records:

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

NSPS and NESHAP Applicability

NSPS:
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
567 IAC 23.1(2) "lll"

NESHAP:
This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR Part 63 Subpart DDDDD].

Authority for Requirement: 567 IAC 22.108(3)
567 IAC 23.1(4)"dd"

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

Stack Height (feet): 82
Stack Opening (inches): 42
Exhaust Flowrate (acfm): 17,115
Exhaust Temperature (^{o}F): 300
Discharge Style: Vertical unobstructed
Authority for Requirement: DNR Construction Permits 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PP08

Associated Equipment
Associated Emission Unit ID Number: EU-PP08
Emissions Control Equipment ID Number: CE-PP08
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP08
Emission Unit Description: Coal Crusher # 1
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 150 ton/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.

BACT Emission Limits

Pollutant: Opacity
Emission Limit: No visible emissions
Authority for Requirement: DNR Construction Permit 87-A-113-P1

Other Emission Limits

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 87-A-113-P1
40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

Pollutant: Particulate Matter (PM)
Emission Limit: 0.18 lb/hr
Authority for Requirement: DNR Construction Permit 87-A-113-P1

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 87-A-113-P1

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

Operating Limits
Operating limits for these emission units shall be:

A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement – DNR Construction Permit 87-A-114-P1

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-113-P1

Emission Point Characteristics
The 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 (^{o}F): 70
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 87-A-113-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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 – Opacity
Stack Test to be Completed: Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.
Test Method – 40 CFR 60, Appendix A, Method 9
Authority for Requirement – DNR Construction Permit 87-A-113-P1

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 22.108(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 22.108(3)

Emission Point ID Number: EP-PP09

Associated Equipment

Associated Emission Unit ID Number: EU-PP09
Emissions Control Equipment ID Number: CE-PP09
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP09
Emission Unit Description: Coal Crusher # 2
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 150 ton/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.

BACT Emission Limits

Pollutant: Opacity
Emission Limit: No visible emissions
Authority for Requirement: DNR Construction Permit 87-A-114-P1

Other Emission Limits

Pollutant: Opacity
Emission Limit: 20%
Authority for Requirement: DNR Construction Permit 87-A-114-P1
40 CFR 60 Subpart Y
567 IAC 23.1(2)"v"

Pollutant: Particulate Matter (PM)
Emission Limit: 0.18 lb/hr
Authority for Requirement: DNR Construction Permit 87-A-113-P1

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 87-A-114-P1

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

Operating Limits
Operating limits for these emission units shall be:

A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement – DNR Construction Permit 87-A-114-P1

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-114-P1

<u>Emission Point Characteristics</u>
The 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 (^{o}F): 70
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 – Opacity

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

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

Authority for Requirement – DNR Construction Permit 87-A-114-P1

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 22.108(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 22.108(3)

Emission Point ID Number: EP-PP10

Associated Equipment

Associated Emission Unit ID Number: EU-PP10
Emissions Control Equipment ID Number: CE-PP10
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP10
Emission Unit Description: Coal Silo # 1
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 150 ton/hr

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 87-A-115-S1

(4) 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: 0.25 lb/hr
Authority for Requirement: DNR Construction Permit 87-A-115-S1

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 87-A-115-S1

Operational Limits & Requirements

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

Operating Limits

Operating limits for these emission units shall be:

A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permit 87-A-115-S1

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

Stack Height (ft, from the ground): 79
Stack Opening (inches, dia.): 12 x 12
Exhaust Flowrate (scfm): 2,950
Exhaust Temperature (^{o}F): 70
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 87-A-115-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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PP11

Associated Equipment
Associated Emission Unit ID Number: EU-PP11
Emissions Control Equipment ID Number: CE-PP11
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP11
Emission Unit Description: Coal Silo # 2
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 150 ton/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 87-A-116-S1

(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 Limit: 0.25 lb/hr
Authority for Requirement: DNR Construction Permit 87-A-116-S1

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 87-A-116-S1

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

Operating Limits
Operating limits for these emission units shall be:

A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permit 87-A-116-S1

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

Stack Height (ft, from the ground): 79
Stack Opening (inches, dia.): 12 x 12
Exhaust Flowrate (scfm): 2,950
Exhaust Temperature (^{o}F): 70
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PP12

Associated Equipment
Associated Emission Unit ID Number: EU-PP12
Emissions Control Equipment ID Number: CE-PP12
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP12
Emission Unit Description: Coal Silo # 3
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 300 ton/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.

BACT Emission Limits

Pollutant: Opacity
Emission Limit: No visible emissions
Authority for Requirement: 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
Authority for Requirement: DNR Construction Permit 87-A-117-P2

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 87-A-117-P2

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

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 & Recordkeeping

Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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, dia.): 24 x 24
Exhaust Flowrate (scfm): 4,460
Exhaust Temperature (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(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 22.108(3)

Emission Point ID Number: EP-PP13

Associated Equipment
Associated Emission Unit ID Number: EU-PP13
Emissions Control Equipment ID Number: CE-PP13
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP13
Emission Unit Description: Limestone Silo
Raw Material/Fuel: Limestone
Rated Capacity: 18.8 ton/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: 5 %
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 94-A-199

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.16 lb/hr, 0.70 ton/yr
Authority for Requirement: DNR Construction Permit 94-A-199

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

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): 700
Exhaust Temperature (^{o}F): 70
Discharge Style: Wall Vent
Authority for Requirement: DNR Construction Permit 94-A-199

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall

submit a request 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 (> 5 %) 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 22.108(3)

Emission Point ID Number: EP-PP14a1

Associated Equipment

Associated Emission Unit ID Number: EU-PP14a
Emissions Control Equipment ID Number: CE-PP14a1
Emissions Control Equipment Description: Bag Filter

Emission Unit vented through this Emission Point: EU-PP14a
Emission Unit Description: Ash Silo
Raw Material/Fuel: Ash
Rated Capacity: 4 ton/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: No visible emissions
Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

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 22.108(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 22.108(3)

Emission Point ID Number: EP-PP14a2

Associated Equipment

Associated Emission Unit ID Number: EU-PP14a
Emissions Control Equipment ID Number: CE-PP14a2
Emissions Control Equipment Description: Bag Filter

Emission Unit vented through this Emission Point: EU-PP14a
Emission Unit Description: Ash Silo
Raw Material/Fuel: Ash
Rated Capacity: 4 ton/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: No visible emissions
Authority for Requirement: PSD Permit dated June 9, 1987 amended on January 19, 1988

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"

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

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 22.108(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 22.108(3)

Emission Point ID Number: EP-PP14b

Associated Equipment

Associated Emission Unit ID Number: EU-PP14b
Emissions Control Equipment ID Number: CE-PP14b
Emissions Control Equipment Description: Bin Vent Filter

Emission Unit vented through this Emission Point: EU-PP14
Emission Unit Description: Ash Conveying System
Raw Material/Fuel: Fly Ash
Rated Capacity: 1.3 ton/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: 5 %
Authority for Requirement: 567 IAC 22.3(3)
DNR Construction Permit 96-A-1125

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.45 lb/hr
Authority for Requirement: DNR Construction Permit 96-A-1125

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 96-A-1125

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

Stack Height (feet): 166
Stack Opening (inches): 14
Exhaust Flowrate (scfm): 2600
Exhaust Temperature (^{o}F): 100
Discharge Style: Vertical, Unobstructed
Authority for Requirement: DNR Construction Permit 96-A-1125

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the

temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 (> 5 %) 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 22.108(3)

Emission Point ID Number: EP-PP28 (Fugitive)

Associated Equipment
Associated Emission Unit ID Number: EU-PP28

Emission Unit vented through this Emission Point: EU-PP28
Emission Unit Description: Coal Unloading Pit
Raw Material/Fuel: Coal
Rated Capacity: 300 ton/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 20 %
Authority for Requirement: 40 CFR 60 Subpart Y

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

NSPS:
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.

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 22.108(3)

Emission Point ID Number: EP-PP30

Associated Equipment
Associated Emission Unit ID Number: EU-PP30, EU-PP31 and EU-PP32
Emissions Control Equipment ID Number: CE-PP24
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU-PP30, EU-PP31 and EU-PP32
Emission Unit Description: EU-PP30, Minibunker 11
EU-PP31, Coal Crusher 3,
EU-PP32, Coal Crusher 4
Raw Material/Fuel: Coal and Biomass
Rated Capacity: 50.0 ton/hr (each emission unit)

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: 567 IAC 23.3(2)"a"
DNR Construction Permit 95-A-439-S1

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

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

Operating Limits
Operating limits for these emission units shall be:

A. The owner or operator shall operate, inspect and maintain the control equipment according to manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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

<u>Emission Point Characteristics</u>
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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 – Opacity

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

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

Authority for Requirement – DNR Construction Permit 95-A-439-S1

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.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: See Table: Conveyor Enclosures

Associated Equipment
Associated Emission Unit ID Numbers: See Table: Conveyor Enclosures

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Table: Conveyor Enclosures

Emission Point Number	Associated Emission Unit ID Number	Emissions Control Equipment IC Number	Emissions Control Equipment Description	Emission Unit Description	Raw Material/ Fuel	Rated Capacity (tons/hr)
EP-PP48	EU-PP48	CE-PP48	Baghouse	South Conveyor Enclosure	Coal/ Biomass	52.5
EP-PP49	EU-PP49	CE-PP49	Baghouse	Transfer Conveyor Enclosure		52.5
EP-PP50	EU-PP50	CE-PP50	Baghouse	Conveyor Discharge Enclosure		27

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: Conveyor Enclosures – Emission Limits

Emission Point Number	Associated Emission Unit ID Number	Opacity Limit 567 IAC 23.1(2)"v"	PM_{10} Limit (lb/hr)	PM Limit (lb/hr)	PM Limit (gr/dscf)	Authority for Requirement (Construction Permit Number)
EP-PP48	EU-PP48	10%	0.012	0.06	0.01	12-A-455-S1
EP-PP49	EU-PP49	10%	0.012	0.06	0.01	12-A-456-S1
EP-PP50	EU-PP50	10%	0.027	0.14	0.01	12-A-457-S1

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

Operating Limits
Operating limits for these emission units shall be:

A. The throughput of these emission units shall not exceed 17 tons/hr.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 Requirement: DNR Construction Permits 12-A-455-S1, 12-A-456-S1, 12-A-457-S1

NSPS and NESHAP Applicability

This emission unit is 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, 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.

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit Number**	**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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 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.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: EP-PP40

Associated Equipment

Associated Emission Unit ID Numbers: EU-PP40
Emissions Control Equipment ID Number: CE-PP40
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP40
Emission Unit Description: Biomass Silo
Raw Material/Fuel: Oat Hulls
Rated Capacity: 25.00 ton/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: 567 IAC 23.3(2)"d"
DNR Construction Permit 03-A-1149-S1

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.15 lb/hr
Authority for Requirement: DNR Construction Permit 03-A-1149-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.4(7)
DNR Construction Permit 03-A-1149-S1

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

Operating Limits
Operating limits for these emission units shall be:

1. The owner or operator shall inspect and maintain the dust collector according to manufacturer's recommendations.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 80.5
Stack Opening, (inches): 12 inches by 12 inches
Exhaust Flowrate (scfm): 1695
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Horizontal Discharge
Authority for Requirement: DNR Construction Permit 03-A-1149-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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-PP41 and EP-PP41a Fug

Associated Equipment

Associated Emission Unit ID Numbers: EU-PP41a and EU-PP41b
Emissions Control Equipment ID Number: CE-PP41
Emissions Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EU-PP41a and EU-PP41b
Emission Unit Description: Biomass Unloading & Conveying
Raw Material/Fuel: Oat Hulls
Rated Capacity: 25.00 ton/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: 567 IAC 23.3(2)"d"
DNR Construction Permit 03-A-1150-S1

(1) An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.15 lb/hr
Authority for Requirement: DNR Construction Permit 03-A-1150-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.4(7)
DNR Construction Permit 03-A-1150-S1

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

Operating Limits
Operating limits for these emission units shall be:

1. The owner or operator shall inspect and maintain the dust collector according to manufacturer's recommendations.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 (^{o}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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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 22.108(3)

Emission Point ID Number: EP-239-4

Associated Equipment
Associated Emission Unit ID Number: EU-239-DRC-1
Emissions Control Equipment ID Number: CE-239-2
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU-239-DRC-1
Emission Unit Description: Hurst Boiler Biomass Fuel Unloading
Raw Material/Fuel: Biomass
Rated Capacity: 28.0 ton/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 %[(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 11-A-666

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.60 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-666

Pollutant: Particulate Matter (PM)
Emission Limit: 0.60 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-666

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 11-A-666

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

Operating Limits
Operating limits for these emission units shall be:

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.

Authority for Requirement: DNR Construction Permit 11-A-666

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 (^{o}F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 11-A-666

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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: EP-239-5

Associated Equipment
Associated Emission Unit ID Number: EU-239-DRC-2
Emissions Control Equipment ID Number: CE-239-3
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU-239-DRC-2
Emission Unit Description: Ag Fuel Storage Bin
Raw Material/Fuel: Biomass
Rated Capacity: 1000 bushels/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % [(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 11-A-665

[(1)] An exceedence 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 exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.14 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-665

Pollutant: Particulate Matter (PM)
Emission Limit: 0.14 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-665

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 11-A-665

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

Operating Limits
Operating limits for these emission units shall be:

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 & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

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 (^{o}F): 708F
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 flowrate may vary with changes in the process and ambient conditions. If it is determined that either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request 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.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan 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 22.108(3)

Emission Point ID Number: EP-PP53 and EP-PP54

Associated Equipment

Associated Emission Unit ID Numbers: EU-PP53 and EU-PP54
Emissions Control Equipment ID Number: CE-PP53 and CE-PP54
Emissions Control Equipment Description: Bin Vent Filters

Emission Unit vented through this Emission Point: EU-PP53 and EU-PP54
Emission Unit Description: Dry Sorbent Injection Silo #1 and Dry Sorbent Injection Silo #2
Raw Material/Fuel: Sorbent
Rated Capacity: 41.15 tons/hr (each)

Applicable Requirements

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

Pollutant: Opacity
Emission Limits: 40% (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).

Authority for Requirement: 567 IAC 23.3(2)"d"
DNR Construction Permit 15-A-283 and 15-A-284

Pollutant: Particulate Matter (PM)
Emission Limits: 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.3(2)"a"
DNR Construction Permit 15-A-283 and 15-A-284

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

Operating Limits
Operating limits for this emission unit shall be:

A. Operate and maintain the control equipment (CE-PP53 and CE-PP54) according to the manufacturer's specifications.

Reporting & Recordkeeping
Unless specified by a federal regulation, 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 Department. Records shall be legible and maintained in an orderly manner. These records shall show the following:

A. Record any maintenance and repair activities performed on the control equipment (CE-PP53 and CE-PP54).

Authority for Requirement: DNR Construction Permits 15-A-283 and 15-A-284

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table: Dry Sorbent Injection Silos– Emission Point Characteristics

			Stack Characteristics				
Emission Point Number	**Associated Emission Unit Number**	**Construction Permit Number**	**Height (feet)**	**Diameter (inches)**	**Exhaust Flowrate (scfm)**	**Exhaust Temp. (°F)**	**Discharge Style**
EP-PP53	EU-PP53	15-A-283	78.5	8	800	Ambient	Vertical
EP-PP54	EU-PP54	15-A-283	78.5	8	800	Ambient	Vertical

Authority for Requirement: 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 flowrate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

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 22.108(3)

VI. 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 chapter 22.

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 22.108(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 22.105 (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 22.108 (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 22.108 (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 22.108 (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 22.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—22.104(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—22.105(455B). *567 IAC 22.116(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 to the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Windsor Heights, Iowa 50324, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to U.S. EPA Region VII, Attention: Chief of Air Permits, 11201 Renner Blvd., Lenexa, KS 66219. 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 22.105(2). *567 IAC 22.105*

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 22.107 (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 22.108 (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 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 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 following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
    a. Form 1.0 "Facility Identification";
    b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
    c. Form 5.0 "Title V annual emissions summary/fee"; and
    d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
    a. Form 1.0 "Facility Identification";
    b. Form 5.0 "Title V annual emissions summary/fee";
    c. Part 3 "Application certification."
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 22.115(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 22.108 (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 22.108 (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 24.2(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 22.108(4), 567 IAC 22.108(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 22;

b. Compliance test methods specified in 567 Chapter 25; 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 22.108(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) 726-8694 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 25.1(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(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 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice fulfills the requirement of paragraph 22.108(5)"b." – See G15. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. *567 IAC 22.108(16)*

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 22.108(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 22.

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—22.140(455B) through 567 - 22.144(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 22.110(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 22.110(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 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(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 22.110(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 22.108(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 - 22.113(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 22.107(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 22.107(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 22.112(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 22, 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 22.111-567 IAC 22.113*

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. Exceedences 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 22.108(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 substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *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 22.108(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 22.108(17)"a", 567 IAC 22.108(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 22.114(1)*

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 22.114(2)*

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 22.114(3)*

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 22.108 (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 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (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 22.111(1). *567 IAC 22.111 (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 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
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 725-9545

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 25.1(7)"a", 567 IAC 25.1(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:

Chief of Air Permits
U.S. EPA Region 7
Air Permits and Compliance Branch
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
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 725-9500

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
909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
7900 Hickman Road, Suite #200
Windsor Heights, IA 50324
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health
Air Quality Branch
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

VII. APPENDIX A

A. 40 CFR 60 Subpart A – *General Provisions*
http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div6&view=text&node=40:7.0.1.1.1.1

B. 40 CFR 60 Subpart Db – Standards of Performance for *Industrial-Commercial-Institutional Steam Generating Units*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.d_0b

C. 40 CFR 60 Subpart Dc – Standards of Performance for *Small Industrial Commercial Institutional Steam Generating Units.*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=&r=SUBPART&n=sp40.7.60.d_0c

D. 40 CFR 60 Subpart Y - Standards of Performance for *Coal Preparation Plants.*
http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div6&view=text&node=40:7.0.1.1.1.41

E. 40 CFR 60 Subpart IIII - Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=cba489d2fd9c62d6497f9fcae9332f7a&r=SUBPART&n=sp40.7.60.iiii

F. 40 CFR 60 Subpart JJJJ - Standards of Performance for *Stationary Spark Compression Ignition Internal Combustion Engines*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=cba489d2fd9c62d6497f9fcae9332f7a&r=SUBPART&n=sp40.7.60.jjjj

G. 40 CFR 63 Subpart A – *General Provisions*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=2afd7eea19e655a5bb1119068ac6508a&r=SUBPART&n=sp40.10.63.a

H. 40 CFR 63 Subpart GGG - National Emission Standards for Hazardous Air Pollutants for *Pharmaceuticals Production*
http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div6&view=text&node=40:12.0.1.1.1.3

I. 40 CFR 63 Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines*
http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div6&view=text&node=40:14.0.1.1.1.1

J. 40 CFR 63 Subpart DDDDD – National Emission Standard for Hazardous Air Pollutants for *Industrial, Commercial, and Institutional Boilers and Process Heaters* http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=a53adb0b42ada40bc2d617ab57caee08&r=SUBPART&n=sp40.14.63.ddddd

APPENDIX B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

DEC 24 2014

Mr. Mark W. Maxwell
University of Iowa
200 USB
Iowa City, Iowa 52242

RE: Request for a Compliance Extension 40 CFR Part 63 Subpart DDDDD

Dear Mr. Maxwell:

This letter is in response to your request dated December 16, 2014, for a compliance extension for the University of Iowa's facility to comply with the Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT). The Boiler MACT compliance date for University of Iowa's boilers 10 and 11 is January 31, 2016. University of Iowa has requested a compliance extension until September 30, 2016, according to the provisions under 40 CFR § 63.6(i), because University of Iowa asserts it needs additional time for the installation of controls.

The U. S. Environmental Protection Agency, Region 7, by this letter approves your request for a one-year extension of the compliance date with the Boiler MACT rule for the University of Iowa facility. Therefore, the approved compliance date for University of Iowa will be September 30, 2016.

Pursuant to 40 CFR § 63.6(i)(4)(i), the compliance extension must be incorporated into the Title V permit. Notwithstanding this extension of compliance for the provisions listed above, University of Iowa must meet all other applicable federal and state requirements. Pursuant to Section 113 of the Clean Air Act, University of Iowa may be subject to civil fines and penalties of up to $37,500 per day per violation, should compliance with 40 CFR Part 63 Subpart DDDDD not be achieved by the extended compliance date of September 30, 2016.

If you have any further questions regarding this compliance extension, please contact Lisa Hanlon at (913) 551-7599.

Sincerely,

Ward A Burns

for Mark A. Smith, Chief
Air Permitting and Compliance Branch
Air and Waste Management Division

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APPENDIX C

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 it 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).

<u>Increasing the PAL Level During the PAL Effective Period</u>

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-PAL
DNR Construction Permit 16-A-044-PAL
DNR Construction Permit 16-A-045-PAL
DNR Construction Permit 16-A-046-PAL
DNR Construction Permit 16-A-047-PAL
DNR Construction Permit 16-A-048-PAL
DNR Construction Permit 16-A-049-PAL