Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: Flint Hills Resources Shell Rock, LLC
Facility Location: 30750 212th Street, Shell Rock, IA 50670
Air Quality Operating Permit Number: 15-TV-003R1
Expiration Date: March 1, 2025
Permit Renewal Application Deadline: September 1, 2024

EIQ Number: 92-6960
Facility File Number: 12-04-007

Responsible Official
Name: Garland Krabbenhoft
Title: Plant Manager
Mailing Address: 30750 212th Street, Shell Rock, IA 50670
Phone #: 319-885-2022

Permit Contact Person for the Facility
Name: Nick Phillips
Title: EHS Manager
Mailing Address: 30750 212th Street, Shell Rock, IA 50670
Phone #: 319-610-8682

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

Table of Contents

Abbreviations

acfm.....actual cubic feet per minute
bu/hr……bushels per hour
CFR.....Code of Federal Regulations
CE .....control equipment
CEM.....continuous emissions monitor
DDGS.....distillers dried grains with solubles
^{o}F .....degrees Fahrenheit
EIQ.....emissions inventory questionnaire
EP.....emission point
EU .....emission unit
gr./dscf .....grains per dry standard cubic foot
IAC.....Iowa Administrative Code
DNR .....Iowa Department of Natural Resources
kW.....kilowatts
Mgals……. million gallons
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. Facility Description and Equipment List

Facility Name: Flint Hills Resources Shell Rock, LLC
Permit Number: 15-TV-003R1

Facility Description: Industrial Organic Chemicals, NEC (SIC 2869)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP S20	EU 01	Truck Receiving #1	07-A-169-S3
	EU 02	Truck Receiving #2	
	EU 03	Rail Receiving	
	EU 04	Receiving Transfer Conveyor #1	
	EU 05	Receiving Transfer Conveyor #2	
	EU 06	Bucket Elevator #1	
	EU 07	Bucket Elevator #2	
	EU 08	East Silo	
	EU 09	West Silo	
EP S25	EU P25a	Steel Grain Bin	14-A-212-S1
	EU P25b	Steel Grain Bin	
EP S30	EU P30	Milling/4 Hammermills	07-A-170-S4
EP S10	EU 62	DDGS Dryer A	07-A-168-S8
	EU 63	DDGS Dryer B	
	EU 64	DDGS Dryer C	
	EU 65	DDGS Dryer D	
	EU B10a	Heat Recovery Boiler A	
	EU B10b	Heat Recovery Boiler B	
	EU 19	Slurry Tank #1	
	EU 20	Slurry Tank #2	
	EU 21	Cook Tube #1	
	EU 22	Cook Tube #2	
	EU 23	Cook Flash Vessel	
	EU 24	Liquefaction Tank #1	
	EU 25	Liquefaction Tank #2	
	EU 33	Molecular Sieve Vaporizer	
	EU 34-EU 39; EUR 37-EUR 39	Molecular Sieve Bottles #1 - #9	
	EU 40	200 Proof Condenser	
	EU 41	200 Proof Flash Vessel	
	EU 42	200 Proof Flash Receiver	
	EU 43	CIP Screen/Tank	

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP S10 (cont)	EU 44	Yeast Tank #1	
	EU 45	Yeast Tank #2	
	EU 46	Beer Column	07-A-168-S8 (cont)
	EU 48	Side Stripper	
	EU 49	Rectifier Column	
	EU 50	190 Proof Condenser	
	EU 51	Reflux Tank	
	EU 52	Regen Tank	
	EU 53	Acid Wash Tank	
	EU 54	Centrate Tank #1	
	EU 55	Centrate Tank #2	
	EU 56	Centrifuges	
	EU 57	Evaporators	
	EU 58	Methanator #1	
	EU 59	Methanator #2	
	EU 60	Methanator #3	
	EU 61	Methanator #4	
	EU 115	Protein Dryer A	
	EU 116	Protein Dryer B	
EP S40	EU 26	Fermenter #1	07-A-171-S3
	EU 27	Fermenter #2	
	EU 28	Fermenter #3	
	EU 29	Fermenter #4	
	EU 30	Fermenter #5	
	EU 31	Fermenter #6	
	EU 32	Fermenter #7	
	EU 66	Fermenter #8	
	EU 67	Fermenter #9	
	EU 47	Beer Well	
EP S70	EU P70	DDGS Cooler	07-A-172-S3
EP S90	EU P90	DDGS Loadout Truck and Rail	07-A-173-S4
EP SEP22	EU F50	Product Loadout & Vapor Recovery (Truck, North Railcar and South Railcar Loadout Stations)	07-A-174-S4
EP SEP11	EU 58	Biomethanators	07-A-175-S3
	EU 59		
	EU 60		
	EU 61		
EP F80	EU P80	Cooling Tower	07-A-176-S3
EP T61	EU T61	Denatured Ethanol Storage Tank	07-A-177-S1
EP T62	EU T62	Denatured Ethanol Storage Tank	07-A-178-S1
EP T63	EU T63	200 Proof Ethanol Storage Tank	07-A-179-S1

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
EP T64	EU T64	Denaturant Storage Tank	07-A-180-S1
EP T65	EU T65	190 Proof Ethanol Storage Tank	07-A-181-S1
EP FP	EU FP	Fire Water Pump	07-A-182-S1
EP F110	EU F110	VOC Emissions from Equipment Leaks	07-A-183-S1
EP F120	EU F120	Truck Traffic	07-A-184-S3
EP F130	EU F130	WDGS Storage and Loadout	07-A-185-S1
EP S150	EU 150	Whole Stillage Tank	14-A-213-S1
EP F22	EU F22	Open Transportation Devices	14-A-214
S31	EU 78	Grind System #1	17-A-515-S1
S32	EU 79	Grind System #2	17-A-516-S1
S111	EU 115	Protein Dryer A (start-up stack)	18-A-610
S112	EU 116	Protein Dryer B (start-up stack)	18-A-611
S140	EU 140	Filter Conveyor (CS-15101)	18-A-613-S1
	EU 133	Protein Reclaim Hopper	
	EU 138	Protein Silo Unloader Conveyor (BS-8110)	
	EU 121	Protein Bucket Elevator (CE-15101)	
S160	EU S160	Natural Gas Boiler #1	19-A-100
S170	EU 122	Pressure Screen Feed Tank	18-A-614
	EU 123	Fiber Slurry Feed Tank	
	EU 124	Fiber Blowdown Tank	
	EU 125	Clarifier Feed Tank	
	EU 126	Clarifier Overflow Tank	
	EU 127	Clarifier Underflow Tank	
	EU 128	Acid Wash Tank	
	EU 129	Slurry Water Tank	
	EU 131	Protein Decanters (6 units)	
	EU 132	Protein Collection Conveyors	
S180	EU 117	Protein Vacuum Cooler	18-A-612
S190, S191, S192, S193 S194	EU 118	Protein Truck and Rail Loading Conveyor (CS-15112)	18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464
	EU 119	Protein Truck and Rail Loadout	
	EU 136	Protein Loadout conveyor 3 (CD-15111)	
S195	EU 137	Protein Reclaim Top Conveyor (CD-15105)	19-A-465
	EU 141	Protein Silo	
S196	EU 121	Protein Bucket Elevator (CE-15101)	19-A-466
S197	EU 139	Protein Loadout L-Pass Conveyor (CD-15101)	19-A-467
	EU 134	Protein Loadout Conveyor 1 (CD-15107)	
	EU 135	Protein Loadout Conveyor 2 (CD-15110)	

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
TS-8411	Corrosion Inhibitor Tank (2,300 gal)
TF-6801	Thin Stillage Tank (374,000 gal)
TF-6810	Syrup Tank (180,000 gal)
TF-2112	Methanator Feed Tank (374,000 gal)
TF-2101	Cook Water Tank (374,000 gal)
TP-12501	Sulfuric Acid Tank (8,000 gal)
S200	Diesel Tank (1,000 gal)
TK-13800	Corn Oil Tank (20,000 gal)
TK-13801	Corn Oil Tank (20,000 gal)
TK-13802	Corn Oil Tank (20,000 gal)
TK-13803	Corn Oil Tank (20,000 gal)
S201	Corn Oil Loadout (0.16 psi)
S202	Corn Oil Vent (0.16 psi)
S203	Parts Washer (30 gallons each)
S204	Ground Corn Pile (2.5 million bushels)
S205	Fire Pump Diesel Tank (300 gallons)
S206	Gasoline Tank (500 gallons)

II. Plant-Wide Conditions

Facility Name: Flint Hills Resources Shell Rock, LLC
Permit Number: 15-TV-003R1

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

Permit Duration

The term of this permit is: 5 years
Commencing on: March 2, 2020
Ending on: March 1, 2025

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 on or after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from 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 EU B10a, EU B10b, EP T61, EP T62, EP T63, EP T64, EP T65, EP F110, EP S160 and EP FP.

See Appendix for a link to the Standard.

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

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 B10a, EU B10b.

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 unit is EU S160.
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 Kb Requirements
This facility is subject to Standards of Performance for *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)* for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. The affected units are EP T61, EP T62, EP T63, EP T64, and EP T65.
See Appendix for a link to the Standard.
Authority for Requirements: 40 CFR 60 Subpart Kb
567 IAC 23.1(2) "ddd"

40 CFR 60 Subpart VVa Requirements
This facility is subject to Standards of Performance for *Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry* for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006. The affected units are equipment in VOC service and any applicable devices and systems (as defined in 40 CFR 60.481) in the entire facility. The owner or operator shall comply with the applicable requirements in 40 CFR 60.480 through 60.489, including recordkeeping requirements in 40 CFR 60.486 and reporting requirements in 40 CFR 60.487. The affected unit is F110.
See Appendix for a link to the Standard.
Authority for Requirements: 40 CFR 60 Subpart VVa
567 IAC 23.1(2) "nn"

40 CFR 60 Subpart IIII Requirements
This facility is subject to Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines*
The affected unit is EP FP. Applicable requirements are incorporated in the Emission Point-Specific conditions.
See Appendix for a link to the Standard.
Authority for Requirements: 40 CFR 60 Subpart IIII
567 IAC 23.1(2) "yyy"

40 CFR 63 Subpart FFFF Requirements
This facility is subject to National Emission Standards for Hazardous Air Pollutants for *Miscellaneous Organic Chemical Manufacturing*. The affected units are EP S10, EP S40, and EP F110.
See Appendix for a link to the Standard.
Authority for Requirements: 40 CFR 63 Subpart FFFF
567 IAC 23.1(4) "cf"

40 CFR 63 Subpart ZZZZ Requirements

This facility is subject to National Emission Standards for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines* (RICE NESHAP). The affected unit is EP FP. Applicable requirements are incorporated in the Emission Point-Specific conditions. 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

This facility is subject to National Emission Standards for Hazardous Air Pollutants for *Industrial, Commercial, Institutional Boilers and Process Heaters*. The affected unit is EP S160. Applicable requirements are incorporated in the Emission Point-Specific conditions. See Appendix for a link to the Standard.

Authority for Requirements: 40 CFR 63 Subpart DDDDD

III. Emission Point-Specific Conditions

Facility Name: Flint Hills Resources Shell Rock, LLC
Permit Number: 15-TV-003R1

Emission Point ID Number: EP S20

Associated Equipment

Table: Grain Receiving, Storage and Handling System

Emission Unit	Emission Unit Description	Raw Material/ Fuel	Rated Capacity	Control Equipment
EU 01	Truck Receiving #1	Grain	20,000 bushels/hr	Baghouse (CE C20)
EU 02	Truck Receiving #2		20,000 bushels/hr	
EU 03	Rail Receiving		20,000 bushels/hr	
EU 04	Receiving Transfer Conveyor #1		20,000 bushels/hr	
EU 05	Receiving Transfer Conveyor #2		20,000 bushels/hr	
EU 06	Bucket Elevator #1		20,000 bushels/hr	
EU 07	Bucket Elevator #2		20,000 bushels/hr	
EU 08	East Silo		500,000 bushels	
EU 09	West Silo		500,000 bushels	

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 07-A-169-S3
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.58 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-169-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.58 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-169-S3
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping

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

Operating Limits

A. The control equipment shall be inspected and maintained according to the facility's (Plant ID 12-04-007) operation and maintenance plan.
B. The grain bins shall be maintained at negative pressure at all times that the bins are in operation.

Reporting & Recordkeeping

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

Authority for Requirement: DNR Construction Permit 07-A-169-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 160
Stack Opening (inches, dia.): 44
Exhaust Flow Rate (scfm): 25,200
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical
Authority for Requirement: DNR Construction Permit 07-A-169-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S20 – Grain Receiving, Storage and Handling System Baghouse

I. Background

A. Emissions Unit

Description: Grain Receiving, Storage and Handling System (EU 01 – 09)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 07-A-169-S3
PM Emission Limit or Standard:	1.58 lb/hr; 0.1 gr/dscf
PM_{10} Emission Limit or Standard:	1.58 lb/hr
$PM_{2.5}$ Emission Limit or Standard:	N/A

C. Control Technology

Fabric Filter Baghouse (CE C20)

II. Grain Receiving, Storage, and Handling System Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 1: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM, PM_{10}, and $PM_{2.5}$ emissions from the Grain Receiving, Storage, and Handling System (EU 01 – 09) are controlled by the Grain Receiving, Storage, and Handling System Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible

bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM, PM_{10}, and $PM_{2.5}$. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S25

Associated Equipment

Associated Emission Unit ID Numbers: EU P25a, EU P25b
Emissions Control Equipment ID Number: CE C25
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU P25a, EU P25b
Emission Unit Description: 2 Steel Grain Bins
Raw Material/Fuel: Grain
Rated Capacity: 510,000 bushels (each bin)

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 14-A-212-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.51 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 14-A-212-S1
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

Operating Limits

A. The baghouse (CE C25) shall be inspected and maintained according to the facility's (Plant ID: 12-04-007) operating and maintenance plans.
B. The grain throughput through the two steel grain bins shall not exceed 378,000 tons of grain per twelve (12) month period, rolled monthly.

Reporting & Recordkeeping

A. The owner or operator shall keep records of control equipment inspections and maintenance.
B. At the end of each month, record the amount of grain (in tons) that was put into the two steel grain bins over the previous month.
C. At the end of each month, record the amount of grain (in tons) that was put into the two steel grain bins over the previous twelve (12) months.

Authority for Requirement: DNR Construction Permit 14-A-212-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 160
Stack Opening (inches, dia.): 20
Exhaust Flow Rate (scfm): 6,000
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 14-A-212-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S25 – Steel Grain Bins Baghouse

I. Background

A. Emissions Unit

Description: Steel Grain Bins (EU P25a/b)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 14-A-212-S1
PM Emission Limit or Standard:	0.51 lb/hr; 0.1 gr/dscf

C. Control Technology

Fabric Filter Baghouse (CE C25)

II. DDGS Cooler Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 2: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM emissions from the Grain Bins (EU P25a/b) are controlled by the Grain Bin Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S30

Associated Equipment

Associated Emission Unit ID Numbers: EU P30
Emissions Control Equipment ID Number: CE C30
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU P30
Emission Unit Description: Four (4) Hammermills
Raw Material/Fuel: Grain
Rated Capacity: 44 tons/hr each; 176 tons/hour total

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 07-A-170-S4
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.20 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-170-S4

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.20 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-170-S4
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the 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 operate and maintain the Baghouse (CE C30) according to the facility's operation and maintenance plan. The owner or operator shall maintain a log of all maintenance and inspection activities performed on the Baghouse (CE C30). This log shall include, but is not necessarily limited to:
    1. The date any inspection and/or maintenance was performed on the Baghouse (CE

C30);
2. Any issues identified during the inspection;
3. Any issues addressed during the maintenance activities; and
4. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 07-A-170-S4

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

Stack Height (ft, from the ground): 160
Stack Opening (inches, dia.): 38
Exhaust Flow Rate (scfm): 19,300
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-170-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S30 – Hammermill Baghouse

I. Background

A. Emissions Unit

Description: Hammermills (EU P30)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 07-A-170-S4
PM Emission Limit or Standard:	1.2 lb/hr; 0.1 gr/dscf
PM_{10} Emission Limit or Standard:	1.2 lb/hr
$PM_{2.5}$ Emission Limit or Standard:	N/A

C. Control Technology

Baghouse (CE C30)

II. Hammermill Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 3: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM, PM_{10}, and $PM_{2.5}$ emissions from the Hammermills (EU S30) are controlled by the Hammermill Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM, PM_{10}, and $PM_{2.5}$. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S10

Associated Equipment

Table 1: DDGS Dryers/Distillation Process

Emission Unit	Emission Unit Description	Raw Material/ Fuel	Maximum Capacity (MMBtu/hr)	Control Equipment
EU 62	DDGS Dryer A	DDGS/ Natural Gas and Biogas	54.4 MMBtu/hr	Thermal Oxidizer 1 (C10a)
EU 63	DDGS Dryer B		54.4 MMBtu/hr	
EU 64	DDGS Dryer C		54.4 MMBtu/hr	Thermal Oxidizer 2 (C10b)
EU 65	DDGS Dryer D		54.4 MMBtu/hr	
EU B10a	Heat Recovery Boiler A	Heat	147.4 MMBtu/hr	None, Units recover heat from thermal oxidizers, located post control
EU B10b	Heat Recovery Boiler B		147.4 MMBtu/hr	
EU19	Slurry Tank #1	Mash	25,000 gallons	Thermal Oxidizer 1 (C10a) or Thermal Oxidizer 2 (C10b)
EU20	Slurry Tank #2	Mash	29,000 gallons	
EU21	Cook Tube #1	Mash	2,623 gal/min	
EU22	Cook Tube #2	Mash	2,623 gal/min	
EU23	Cook Flash Vessel	Mash	2,821 gal/min	
EU24	Liquefaction Tank #1	Mash	128,400 gallons	
EU25	Liquefaction Tank #2	Mash	128,400 gallons	
EU33	Molecular Sieve Vaporizer	Ethanol	400 gal/min	
EU34-EU39; EUR37-EUR39	Molecular Sieve Bottles #1 - #9	Ethanol	400 gal/min	
EU40	200 Proof Condenser	Ethanol	400 gal/min	
EU41	200 Proof Flash Vessel	Ethanol	400 gal/min	
EU42	200 Proof Flash Receiver	Ethanol	400 gal/min	
EU43	CIP Screen/Tank	CIP	25,000 gallons	
EU44	Yeast Tank #1	Yeast	20,000 gallons	
EU45	Yeast Tank #2	Yeast	20,000 gallons	
EU46	Beer Column	Beer	3,773 gal/min	
EU48	Side Stripper	Ethanol	982 gal/min	
EU49	Rectifier Column	Ethanol	828 gal/min	
EU 50	190 Proof Condenser	Ethanol	1,967 gal/min	Thermal Oxidizer 1 (C10a) or Thermal Oxidizer 2 (C10b)
EU 51	Reflux Tank	Ethanol	1,240 gallons	
EU 52	Regen Tank	Ethanol	1,240 gallons	
EU 53	Acid Wash Tank	Acid Wash	14,200 gallons	
EU 54	Centrate Tank #1	Centrate	1,690 gallons	
EU 55	Centrate Tank #2	Centrate	1,690 gallons	

EU 56	Centrifuges	Whole Stillage	3,007 gal/min	
EU 57	Evaporators	Thin Stillage	1,966 gal/min	
EU 58	Methanator #1	Process Water	30,000 gallons	None, These units may be vented to Dryer A and the combustible gases are burned there before the exhaust is emitted through the thermal oxidizers and out this stack. If these units are not vented through Dryer A, they shall be vented to the flare associated with EP SEP11.
EU 59	Methanator #2		30,000 gallons	
EU 60	Methanator #3		30,000 gallons	
EU 61	Methanator #4		30,000 gallons	
EU 115	Protein Dryer A	Protein/ natural gas	46 MMBtu/hr (9,900 lb/hr)	None, These units vent to separate stacks during start-up. During normal operation, they vent to the existing thermal oxidizers. Protein Dryer A is vented to Thermal Oxidizer 1 (CE C10a) and Protein Dryer B is vented to Thermal Oxidizer 2 (CE C10b).
EU 116	Protein Dryer B	Protein/ natural gas	46 MMBtu/hr (9,900 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 Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 07-A-168-S8
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 5.98 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-168-S8

Pollutant: Particulate Matter (PM)
Emission Limit: 5.98 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-168-S8
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 16.67 lb/hr; 500 ppmv
Authority for Requirement: DNR Construction Permit 07-A-168-S8
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x) (S10)
Emission Limit: 27.50 lb/hr [(2)]; 0.1 lb/MMBtu [(3)]
Authority for Requirement: DNR Construction Permit 07-A-168-S8
40 CFR Part 60 Subpart Db
567 IAC 23.1(2)"ccc"

[(2)] Compliance is determined on a 30-day rolling average basis, and applies at all times, including periods of startup, shutdown and malfunction.
[(3)] Compliance is determined on a 30-day rolling average basis, and applies at all times, including periods of startup, shutdown and malfunction – 40 CFR §60.44b (h), (i) and (l).

Pollutant: Nitrogen Oxides (NO_x) (CE 10A/EU B10a; CE 10b/EU B10b; EU160)
Emission Limit: 97.0 tons/yr [(4)]
Authority for Requirement: DNR Construction Permit 07-A-168-S8
[(4)] The annual emission limit only applies to the fossil fuel fired boilers CE 10A/EU B10a, CE 10B/EU B10b and EU S160. Limit is a 12 month rolling total and compliance will be demonstrated through the record keeping outlined in Operating Requirements.

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 4.60 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-168-S8

Pollutant: Carbon Monoxide (CO)
Emission Limit: 27.50 lb/hr [(5)]; 97.0 tons/yr [(6)]
Authority for Requirement: DNR Construction Permit 07-A-168-S8
[(5)] Compliance is determined on a 30-day rolling average basis, and applies at all times, including periods of startup, shutdown and malfunction.
[(6)] Combined emission limit for EP S10 and EP S160.

Pollutant: Total HAP
Emission Limit: 20 ppmv [(7)]
Authority for Requirement: DNR Construction Permit 07-A-168-S8
[(7)] Actual limit from the MON MACT (40 CFR 63 Subpart FFFF) is 98% or more reduction of total organic HAP or no more than 20 ppmv total organic HAP in the exhaust stream.

NSPS and NESHAP Applicability

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU B10a and EU B10b	A	General Provisions	NA	23.1(2)	§60.1 – §60.19
	Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units	Greater than 100 MMBtu/hr heat input	23.1(2)"ccc"	§60.40b - §60.49b

Applies to Process:

Subpart	Title	State Reference (567 IAC)	Federal Reference (40 CFR)
A	General Provisions	23.1(4)	§63.1 – §63.15
FFFF	Miscellaneous Organic Chemical Manufacturing	23.1(4)"cf"	§63.2430 – §63.2550

Authority for Requirement: DNR Construction Permit 07-A-168-S8

Operating Requirements and Associated Recordkeeping

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

A. Each thermal oxidizer shall maintain a temperature (daily average) during operation at or above the average temperature of the oxidizer recorded during the most recent performance test which demonstrated compliance with the emission limits.
   i. The owner or operator shall keep hourly records of the operating temperature of each thermal oxidizer.

B. The thermal oxidizers shall be operated at all times the dryers or distillation equipment is being used.
   i. The owner or operator shall keep records of the frequency and amount of time the thermal oxidizer malfunctions, and estimate the emissions emitted during said malfunctions.

C. The dryers or thermal oxidizers shall combust only natural gas and/or process off gases. The heat recovery boilers shall not combust any supplemental fuel.
   i. 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 on a 12 month rolling average basis with a new annual capacity factor calculated at the end of each calendar month for the previous month, as required in 40 CFR §60.49b(d) for the thermal oxidizer/waste heat boiler. The annual capacity factor is defined as the ratio between the actual heat input to a steam generating unit during a calendar year, and the potential heat input had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity.

D. The control equipment shall be inspected and maintained according the facility's (Plant ID 12-04-007) operation and maintenance plan.
   i. The owner or operator shall keep records of control equipment inspections and maintenance.

E. The owner or operator shall follow the applicable standards of Subpart Db, 40 CFR

§60.40b through §60.49b.

i. The owner or operator shall maintain records of the following information for each steam generating unit operating day, as required in 40 CFR §60.49b(g). This information shall also be submitted in a report, as required in 40 CFR §60.49b(i).
   1. Calendar date.
   2. Average hourly nitrogen oxides emission (as NO2) rates measured.
   3. 30-day average nitrogen oxides emission rates calculated at the end of each steam generating unit operating day from the measured hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
   4. Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the emission standard, with the reason for such excess emissions as well as a description of corrective actions taken.
   5. 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.
   6. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
   7. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
   8. Identification of the times when the pollutant concentrations exceeded the full span of the continuous monitoring system.
   9. Description of any modifications to the continuous monitoring system that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.
   10. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Appendix F, Procedure 1.

F. As required by 40 CFR §63.2450(e)(1), the owner or operator of this equipment shall comply with the requirements of 40 CFR §63.982(c). This also requires the owner or operator to comply with the requirements of 40 CFR §63.988 and any other applicable referenced requirement.

G. As required by 40 CFR §63.6(e), the facility shall develop and implement a written startup, shutdown and malfunction plan (SSMP) unless otherwise exclude within the applicable standards.

H. The emissions of oxides of nitrogen (NOx) from EP S160 and EP S10 shall not exceed 97.0 tons per twelve (12) month total, rolled monthly.

I. At the end of each month, record the amount of NOx emitted from this emission point (EP S10) in tons during the previous month. The emissions shall be determined using the continuous emissions monitors required by this permit.

J. At the end of each month, record the amount of NOx emitted from this emission point (EP S10) and EP S160 over the previous twelve (12) months by summing the most recent twelve (12) values calculated in Condition N.

K. The emissions of carbon monoxide (CO) from EP S160 and EP S10 shall not exceed 97.0 tons per twelve (12) month total, rolled monthly.

L. At the end of each month, record the amount of CO emitted from this emission point (EP S10) in tons during the previous month. The emissions for EP S10 shall be determined using the continuous emissions monitors required by this permit.

M. At the end of each month, record the amount of CO emitted from this emission point (EP S10) and EP S160 over the previous twelve (12) months by summing the most recent combined twelve (12) values for EP S10 and EP S160.

N. The permittee shall use the NOx CEM data from EP S10, the natural gas fuel usage records, and the equation below to calculate and record the monthly NOx emissions from the TO/HRSGs and boiler EU S160. The permittee shall maintain records of all data used to perform the calculations:

$$NOx\ (ton/month) = [S10_{NOx}] \times [(1.2 \times NG_{TO/HRSG})/(\{1.2 \times NG_{TO/HRSG}\}+\{NG_{Dryers}\}+\{NG_{ProteinDryerA}\}+\{NG_{ProteinDryerB}\})] + [EF_{S160} \times NG_{S160}/2000]$$

Where: NOx (ton/month) = NOx from TO/HRSGs and boiler EU S160

$S10_{NOx}$ = total NOx emissions from stack S10 as measured by the CEM, in tons

$NG_{TO/HRSG}$ = amount of natural gas combusted in the TO/HRSGs in MMBtu

NG_{Dryers} = amount of natural gas combusted in the Dryers in MMBtu

1.2 = compliance margin

NG_{S160} = amount of natural gas combusted in EU S160 in MMBtu per month

$NG_{ProteinDryerA}$ = amount of natural gas combusted in Protein Dryer A in MMBtu per month; excluding the natural gas when exhaust is routed to EP S111 (Protein Dryer A start-up stack).

$NG_{ProteinDryerB}$ = amount of natural gas combusted in Protein Dryer B in MMBtu per month; excluding the natural gas when exhaust is routed to EP S112 (Protein Dryer B start-up stack).

EF_{S160} = NOx emission factor from the boiler in lb/mmBTU. This emission factor shall be determined as follows:

1) For the period between the start of operation of this unit and the acceptance of the initial stack test, the emission factor shall be 0.1 lb/mmBTU;
2) After the initial stack test, the emission factor shall be calculated as follows:

EF_{S160} = (average of the three test runs) + 1.7 X (standard deviation of the three test runs)

O. The permittee shall use the equation in condition N to determine the 12-month rolling total emissions of NOx from the TO/HRSGs and boiler EU S160 for each calendar month. New 12-month totals shall be calculated at the end of each month, for the previous month. The permittee may also assume that all NOx emissions from stack S10 are from the TO/HRSGs.

P. The permittee shall monitor the natural gas input to the dryers and the TO/HRSGs separately.

i. Record the amount of natural gas input to the dryers and the TO/HRSGs in MMBtu/month.

Authority for Requirement: DNR Construction Permit 07-A-168-S8

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

Stack Height (ft, from the ground): 125
Stack Opening (inches, dia.): 120
Exhaust Flow Rate (scfm): 153,400
Exhaust Temperature (°F): 300
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-168-S8

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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.

Continuous Emission Monitoring Systems (CEMS)

A. NSPS Monitoring Requirements for Nitrogen Oxides Emission Standards:
   1. The owner or operator shall continuously monitor emissions of nitrogen oxides (NO_x) discharged to the atmosphere through EP-S10. Therefore, in accordance with 40 CFR §60.48b(b)(1), the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring NO_x concentrations and shall record the output of the CEMS.
   2. Per 40 CFR 60.48b(f), when NO_X emissions are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained by using standby monitoring systems, 40 CFR Part 60 Appendix A Method 7, 40 CFR Part 60 Appendix A Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

B. Non-NSPS NO_x, and CO Emission Standards Monitoring Requirements:
   1. The owner or operator shall demonstrate compliance with the non-NSPS NO_x emission standards in this permit through the use of CEMS as required by NSPS Subpart Db (see Condition A.1.).
   2. The owner or operator shall continuously monitor emissions of carbon monoxide (CO) discharged to the atmosphere through EP-S10. Therefore, the owner or operator shall install, calibrate, maintain, and operate a CEMS for measuring CO concentrations and shall record the output of the CEMS.
   3. The owner or operator shall demonstrate compliance with the NO_X and CO pound per hour emission limits through the use of a continuous flow monitoring system (flowmeter). The owner or operator shall install, calibrate, maintain, and operate a flowmeter for calculating the lb/hr emission rates of NO_X and CO discharged from the emission point to the atmosphere. The flowmeter shall be installed, evaluated, operated and data collected to meet the requirements of 40 CFR Part 60, Appendix B,

Performance Specification 6 (PS6).

C. Requirements for the CEMS monitoring NSPS and Non-NSPS Emission Standards:
   1. The CEMS required by this permit to monitor emissions of NO_x discharged to the atmosphere through EP-S10 shall be designed to meet the requirements in 40 CFR Part 60, Appendix B, Performance Specification 2 (PS2) – *Specifications and Test Procedures for SO_2 and NO_x Continuous Emission Monitoring Systems in Stationary Sources* and Performance Specification 6 (PS6) – *Specifications and Test Procedures for Continuous Emission Rate Monitoring Systems in Stationary Sources*.
   2. The CEMS required by this permit to monitor emissions of CO discharged to the atmosphere through EP-S10 shall be designed to meet the requirements in 40 CFR Part 60, Appendix B, Performance Specification 4A (PS4A) – *Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources* and Performance Specification 6 (PS6) - *Specifications and Test Procedures for Continuous Emission Rate Monitoring Systems in Stationary Sources*.
   3. All CEMS required by this permit shall comply with the applicable requirements in Appendix F to 40 CFR Part 60 – *Quality Assurance Procedures*, including, but not limited to the following requirements:
      i. The owner or operator shall develop and implement a quality control (QC) program. As a minimum, each QC program shall include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:
         a. Calibration of the CEMS;
         b. Calibration drift determination and adjustment of the CEMS;
         c. Preventive maintenance of the CEMS (including spare parts inventory);
         d. Data recording, calculations, and reporting;
         e. Accuracy audit procedures including sampling and analysis methods; and
         f. Program of corrective action for malfunctioning CEMS.
      ii. As described in section 5.3 of 40 CFR Part 60 Appendix F, whenever excessive inaccuracies occur for two consecutive quarters, the source owner or operator must revise the current QC procedures or shall modify or replace the CEMS.
      iii. The owner or operator shall keep on-site a copy of these written procedures and shall make them available for inspection by the Department.
      iv. The owner or operator shall conduct a Relative Accuracy Test Audit (RATA) at least once every four calendar quarters and shall submit RATA reports to the Department as indicated in this permit (see General Conditions G30).
   4. If requested by the Department, the owner or operator shall coordinate the quarterly cylinder gas audits with the Department to afford the Department the opportunity to observe these audits. The relative accuracy test audits shall be coordinated with the Department.

D. Operation and Data Handling Requirements for Continuous Emission Monitoring of Non-NSPS Emission Standards:
   1. All CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission unit associated with EP-S10, except for CEMS breakdowns and repairs. Data is recorded during calibration checks and zero span adjustments.
      i. The 1-hour average NO_x, and CO emission rates measured by the CEMS required

by this permit shall be used to demonstrate compliance with the emission standards in this permit. At least two data points must be used to calculate each 1-hour average.

ii. For each hour of missing emission data for NO_x, and CO, the owner or operator shall substitute data as follows:
   a. If the monitor data availability is equal to or greater than 95.0%, the owner or operator shall substitute data by means of the automated data acquisition and handling system for each hour of missing data period according to the following procedures:
      1. For a missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by the CEMS for the hour before and the hour after the missing data period.
      2. For a missing data period greater than 24 hours, substitute the greater of:
         - The 90^{th} percentile hourly pollutant concentration recorded by the CEMS during the previous 720 quality-assured monitor operating hours; or
         - The average of the hourly pollutant concentrations recorded by the CEMS for the hour before and the hour after the missing data period.
   b. If the monitor data availability is at least 90.0%, the owner or operator shall substitute data by means of the automated data acquisition and handling system for each hour of missing data period according to the following procedures:
      1. For a missing data period of less than or equal to 8 hours, substitute the average
         of the hourly concentrations recorded by the CEMS for the hour before and the hour after the missing data period.
      2. For a missing data period of more than 8 hours, substitute the greater of:
         - The 95^{th} percentile hourly pollutant concentration recorded by the CEMS during the previous 720 quality-assured monitor operating hours; or
         - The average of the hourly pollutant concentrations recorded by the CEMS for the hour before and the hour after the missing data period.
   c. If the monitor data availability is less than 90.0%, the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.

Authority for Requirement: DNR Construction Permit 07-A-168-S8

Compliance Demonstration Table

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
PM – State	Stack Testing	One-Time [(1)]	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51 Appendix M Method 202
PM_{10}	Stack Testing	One-Time [(1)]	1 hour	40 CFR 51, Appendix M, 201A with 202
VOC	Stack Testing	One-Time [(2)]	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18
VOC	Stack Testing	[(3)]	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18
HAP	Stack Testing	[(4)]	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18

[(1)] One-time stack test required for PM and PM10. An initial test is required after construction of proposed new equipment. The facility is allowed to test for PM and assume all PM is PM10.

[(2)] One-time stack test required for VOC. An initial test is required after construction of proposed new equipment. The facility could use this test to satisfy test requirements in Note 3, if the test date coincides with Note 3 requirement.

[(3)] Performance testing shall be conducted once every three years. Testing of this stack shall be conducted in a manner to verify compliance with all emission limits with all equipment operating.

[(4)] Testing for Total Organic HAP shall be completed on the schedule required by NESHAP Subpart FFFF (40 CFR 63 §63.2430 – 63.2550).

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: DNR Construction Permits 07-A-168-S8

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

Required for multicyclones following DDGS dryers.

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

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

Operating Requirements and Associated Recordkeeping for this emission point fulfill the CAM Plan requirement.

Authority for Requirement: 567 IAC 22.108(3)

Multi Cyclone Agency Operation & Maintenance Plan

This Operations and Maintenance (O&M) Plan pertains to the multicyclones which are part of the process equipment and service Emission Point EP S10.

Monitoring Guidelines

Flint Hills Resources Shell Rock, LLC makes commitment to take corrective action during period of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and continue to eliminate the root cause.

Monitoring Methods & Corrective Actions

General

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.
- Flint Hills Resources Shell Rock, LLC will maintain a written record of the observation, deficiencies and any action resulting from the inspections.

Continuous

- Operational personnel will maintain dryer/cyclone systems at optimal operating pressures. Pressure indicators in the dryer drums will be maintained at negative pressure for optimal flow. Corrective action will be taken in the event of the system pressure swings positive (during start-up, shutdown and upset conditions) to return to negative pressures.
- Multiclones have high level switches present, monitored within the DCS to ensure appropriate operation. Operators will systematically shutdown the dryer feed and the dryers in a safe manner when system alarm is activated.
- Flint Hills Resources Shell Rock, LLC will maintain a written record of the observation, deficiencies and any action resulting from the inspections.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Daily

- Operations personnel will conduct visual inspections of sight glasses on the Thermal Oxidizers which can provide indications of unusual carry over of particulate from the multiclones. If unusual or excessive carry over particulate is observed action will be taken as soon as possible, but no later than 8 hour after the occurrence
- Flint Hills Resources Shell Rock, LLC will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Semi-Annual

- Inspect the structural components including the cyclone ductwork and hoods for leaks or component failure.
- Flint Hills Resources Shell Rock, LLC will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented within eight (8) hours.

Annual

- Inspect the hopper unloading components.
- Check for leaks in the system to ensure the airflow from the dirty side doesn't infiltrate the clean side. Verify that the inlet and outlet ductwork is in good operating condition.
- Check the barrel and collecting tube for deposits and/or excess wear and clean/repair as needed. Dents in the barrel or collecting tube must be remove to ensure proper operation.
- Inspect the cyclone inlet vanes (ramps or spinners) and if necessary clean to ensure they operate according to manufacture specification.
- Flint Hills Resources Shell Rock, LLC will maintain a written record of the observations, deficiencies and any action resulting from the inspection.
- If leaks or abnormal conditions are detected the appropriate measures for remediation will be implemented before the system is returned to service.

Record Keeping and Reporting

- Flint Hills Resources Shell Rock, LLC will maintain a written or electronic record of all inspections and any action resulting from the inspections.
- Flint Hills Resources Shell Rock, LLC will keep maintenance and inspection records for five (5) years and will be available upon request.

Quality Control

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacture specifications.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP S40

Associated Equipment

Table 1: Fermentation

Emission Unit	Emission Unit Description	Raw Material/ Fuel	Maximum Capacity (gallons)	Control Equipment
EU 26	Fermenter #1	Beer	807,000	CO_2 Scrubber (C40)
EU 27	Fermenter #2		807,000	
EU 28	Fermenter #3		807,000	
EU 29	Fermenter #4		807,000	
EU 30	Fermenter #5		807,000	
EU 31	Fermenter #6		807,000	
EU 32	Fermenter #7		807,000	
EU 66	Fermenter #8		807,000	
EU 67	Fermenter #9		807,000	
EU 47	Beer Well		1,080,000	

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 07-A-171-S3
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.20 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-171-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.20 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-171-S3
567 IAC 23.4(7)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limits: 20.00 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-171-S3

Pollutant: Total HAP
Emission Limits: 20 ppmv [(2)]
Authority for Requirement: DNR Construction Permit 07-A-171-S3
40 CFR Part 63, Subpart FFFF
567 IAC 23.1(4)"cf"

[(2)] The emission limit is for Group 1 process vents as described in Table 1 to Subpart FFFF of Part 63 – *Emission Limits and Work Practice Standards for Continuous Process Vents*. As indicated in this table, the owner or operator shall reduce emissions of Total Organic HAP by ≥ 98 percent by weight or to an outlet process concentration ≤ 20 ppm_v as organic HAP by venting emissions through a closed-vent system to any combination of control devices (except a flare).

NESHAP Applicability

Subpart	Title	State Reference (567 IAC)	Federal Reference (40 CFR)	Affected Source	Type
A	General Provisions	23.1(4)"a"	§63.1 – §63.15	Fermentation Process	NA
FFFF	NESHAP: Miscellaneous Organic Chemical Manufacturing	23.1(4)"cf"	§63.2430 – §63.2550	EP-S40	Group 1 Process Vents

Operating Requirements and Associated Recordkeeping

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

A. The control device (CE-C40) associated with Emission Point S40 shall be operated at all times process equipment associated with this emission point is in operation.
B. As required by 40 CFR §63.2450(e)(1), the owner or operator of this equipment shall comply with the requirements of 40 CFR §63.982(c). This also requires the owner or operator to comply with the requirements of 40 CFR §63.990(b) and 40 CFR §63.990(c) and any other applicable referenced requirement. The owner or operator shall maintain all records required by the NESHAP Subpart FFFF and all applicable referenced requirements.
C. As required by 40 CFR §63.6(e), the facility shall develop and implement a written startup, shutdown and malfunction plan (SSMP) unless otherwise excluded within the applicable standards.
D. The owner or operator shall install, operate and maintain equipment necessary to

continuously monitor the water feed rate (in gallons per minute) into the scrubber. This equipment shall be installed, operated, and maintained in accordance with the facility's Operations & Maintenance (O&M) Plan.

a. The daily (calendar day) average water feed rate (in gallons per minute) into the scrubber shall be maintained at or above the average value observed during the most recent compliance test which demonstrated compliance with all applicable emission limits.

E. The owner or operator shall install, operate and maintain equipment necessary to continuously monitor the process (make-up) water feed rate (in gallons per minute) into the scrubber. This equipment shall be installed, operated, and maintained in accordance with the facility's Operations & Maintenance (O&M) Plan.

a. The daily (calendar day) average process (make-up) water feed rate (in gallons per minute) into the scrubber shall be maintained at or below the average value observed during the most recent compliance test which demonstrated compliance with all applicable emission limits.

F. The owner or operator shall install, operate and maintain equipment necessary to continuously monitor the additive feed rate into the scrubber. This equipment shall be installed, operated, and maintained in accordance with the facility's Operations & Maintenance (O&M) Plan.

a. The daily (calendar day) average additive feed rate (in milliliters per minute) into the scrubber shall be maintained at or above the average value observed during the most recent compliance test which demonstrated compliance with all applicable emission limits.

G. The owner or operator shall install, operate and maintain equipment necessary to continuously monitor the pressure drop across the scrubber. This equipment shall be installed, operated, and maintained in accordance with the facility's Operations & Maintenance (O&M) Plan.

a. The facility shall maintain a daily (calendar day) average differential pressure drop across the wet scrubber that is less than 15 inches water column based on a daily averaging period. The facility shall establish an alarm setting for the purpose of initiating corrective action based on a pressure drop across the wet scrubber greater than 15 inches water column.

b. The owner or operator shall collect and record differential pressure drop at minimum of once every 15 minutes and calculate and record the average pressure drop across the scrubber based on a daily (calendar day) average.

c. If the daily (calendar day) average pressure drop is greater than 15 inches of water column, the facility shall record the time, date and actions taken to correct the situation and also when the parameter is back in the acceptable average pressure drop range.

d. These requirements shall not apply on days that the scrubber or the equipment the scrubber controls is not in operation.

H. The owner or operator shall install, operate and maintain equipment necessary to continuously monitor the scrubbing process (make-up) water outlet temperature from the heat exchanger (i.e., prior to mixing with well water). This equipment shall be installed, operated, and maintained in accordance with the facility's Operations & Maintenance (O&M) Plan.

a. The facility shall maintain a daily (calendar day) average temperature of the scrubbing process water (measured at the outlet of the heat exchanger) that is no greater than 5^{o}F above the average scrubbing process water temperature recorded during a previous performance test that demonstrated compliance with all applicable emission limits.
b. The owner or operator shall collect and record scrubbing process water temperature at a minimum of once every 15 minutes and calculate and record the daily average scrubbing process water temperature.
c. If the daily (calendar day) average scrubbing process water temperature exceeds the average scrubbing process water temperature recorded during a previous performance test that demonstrated compliance with all applicable emission limitations by more than 5^{o}F, the facility shall record the time, date and actions taken to correct the situation, and the time and date that parameter was returned below the acceptable maximum scrubbing process water temperature.
d. The facility shall establish an alarm setting for the purpose of initiating corrective action based on a scrubbing process water temperature greater than 5^{o}F above the average scrubbing process water temperature recorded during a previous performance test that demonstrated compliance.
e. These requirements shall not apply on days that the scrubber or the equipment the scrubber controls is not in operation.

I. The owner or operator shall inspect and maintain the scrubber (CE-C40) according to the facility's (Plant No. 12-04-007) operation and maintenance plan or manufacturer's specifications.
   a. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. At a minimum, this log shall include:
      1. The date any inspection and/or maintenance was performed on the control equipment;
      2. Any issues identified during the inspection;
      3. Any issues addressed during the maintenance activities; and,
      4. Identification of the staff member performing the maintenance or inspection.

Note: Continuous monitoring of any parameter shall be consistent with requirements of 40 CFR §63.998(b).

Authority for Requirement: DNR Construction Permit 07-A-171-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 75
Stack Opening (inches, dia.): 27
Exhaust Flow Rate (scfm): 12,375-20,625
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-171-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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.

Compliance Demonstration Table

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
VOC	Stack Testing [1]	Annually	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18
HAP	Stack Testing	[2]	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18

[1] The VOC periodic testing shall be completed annually during the months of June, July, or August.
[2] Total Organic HAP initial testing shall be completed on the schedule required by 40 CFR Part 63, Subpart FFFF (§63.2430 - §63.2550).

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** ☐

Operating Requirements and Associated Recordkeeping for this emission point fulfill the CAM Plan requirement.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP S70

Associated Equipment

Associated Emission Unit ID Numbers: EU P70
Emissions Control Equipment ID Number: CE C70
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU P70
Emission Unit Description: DDGS Cooler
Raw Material/Fuel: DDGS
Rated Capacity: 4,000 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: DNR Construction Permit 07-A-172-S3
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.67 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-172-S3

Pollutant: Particulate Matter (PM)
Emission Limit: 0.67 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-172-S3
567 IAC 23.4(7)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 2.62 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-172-S3

Operating Requirements and Associated Recordkeeping

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

Operating Limits

A. The control equipment shall be inspected and maintained according to the facility's (Plant ID 12-04-007) operation and maintenance plan.

Reporting & Recordkeeping:

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

Authority for Requirement: DNR Construction Permit 07-A-172-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (ft, from the ground): 70
Stack Opening (inches, dia.): 48
Exhaust Flow Rate (scfm): 18,000
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-172-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S70 – DDGS Cooler Baghouse

I. Background

A. Emissions Unit

Description: DDGS Cooler (EU P70)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 07-A-172-S3
PM Emission Limit or Standard:	0.67 lb/hr; 0.1 gr/dscf

C. Control Technology

Fabric Filter Baghouse (CE C70)

II. DDGS Cooler Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 4: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM emissions from the DDGS Cooler (EU S70) are controlled by the DDGS Cooler Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S90

Associated Equipment

Associated Emission Unit ID Numbers: EU P90
Emissions Control Equipment ID Number: CE C90
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU P90
Emission Unit Description: DDGS Truck and Rail Loadout
Raw Material/Fuel: DDGS
Rated Capacity: 7,500 bushels/hr Truck loadout; 7,500 bushels/hr rail loadout

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permits 07-A-173-S4
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.34 lb/hr
Authority for Requirement: DNR Construction Permits 07-A-173-S4

Pollutant: Particulate Matter (PM)
Emission Limit: 0.34 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 07-A-173-S4
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (Plant ID 12-04-007) operation and maintenance plan.
B. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permits 07-A-173-S4

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

Stack Height (ft, from the ground): 40
Stack Opening (inches, dia.): 22
Exhaust Flow Rate (scfm): 4,400
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permits 07-A-173-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S90 – DDGS Loadout Baghouse

I. Background

A. Emissions Unit

Description: DDGS Storage and Loadout (EU 74 – EU 77)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 07-A-173-S4
PM Emission Limit or Standard:	0.34 lb/hr; 0.1 gr/dscf

C. Control Technology

Fabric Filter Baghouse (CE C90)

II. DDGS Storage and Loadout Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 5: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM emissions from DDGS Loadout (EU S90) are controlled by the DDGS Storage and Loadout Baghouse.

Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

B. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP SEP22

Associated Equipment

Associated Emission Unit ID Numbers: EU F50
Emissions Control Equipment ID Number: CE F50
Emissions Control Equipment Description: Loadout Flare (Natural Gas-Fired; 12.4 MMBtu/hr)

Emission Unit vented through this Emission Point: EU F50
Emission Unit Description: Product Loadout & Vapor Recovery
Raw Material/Fuel: Ethanol
Rated Capacity: 3,773 gal/min

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 07-A-174-S4
567 IAC 23.3(2)"d"

(1) Except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours, Flare CE-F50 shall operate with no visible emissions. Therefore, outside of these periods, an exceedance of the indicator opacity of "no visible emissions" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM)
Emission Limit: 2.23 tons/yr (2), 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-174-S4
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 07-A-174-S4
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 3.74 tons/yr (2)
Authority for Requirement: DNR Construction Permit 07-A-174-S4

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 26.96 tons/yr [(3)]
Authority for Requirement: DNR Construction Permit 07-A-174-S4
[(3)] VOC emissions are the sum of: (1) Losses from switch-loading a maximum of 65 million gallons of product per year at the truck loadout; (2) Losses from loading a maximum of 75 million gallons of product per year at the truck and rail loadout, combined; and (3) Combustion emissions from a maximum flare and pilot operation of 8,760 hours per year. Product at Plant No. 12-04-007 includes varying blends of ethanol and natural gasoline.

Pollutant: Carbon Monoxide (CO)
Emission Limit: 16.87 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-174-S4
[(2)] It is based on a maximum flare (CE-F50) and pilot operation of 8,760 hours per year.

NESHAP Applicability

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU-F50	A	General Provisions	NA	23.1(4)	§63.1 – §63.15
	FFFF	NESHAP for Miscellaneous Organic Chemical Manufacturing	Group 2 Transfer Racks	23.1(4)"cf"	§63.2430 - §63.2550

Operating Requirements and Associated Recordkeeping

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

Equipment Operation and Throughput Limits Requirements

A. The total amount of fuel ethanol product loaded out at Plant Number 12-04-007 by truck and rail combined shall not exceed 140 million gallons per rolling twelve-month period.
   i. The owner or operator shall record the total amount of fuel ethanol product, in gallons, loaded out at this facility on a monthly basis.
   ii. The owner or operator shall calculate and record the total amount of fuel ethanol product, in gallons, loaded out at this facility on a rolling 12-month basis.

B. The total amount of fuel ethanol product switch-loaded at the truck loadout shall not exceed 65 million gallons per rolling twelve-month period. Switch-loading is not allowed at the rail loadout.
   i. The owner or operator shall record the total amount, in gallons, of fuel ethanol product switch-loaded at the truck loadout on a monthly basis.
   ii. The owner or operator shall calculate and record the total amount, in gallons, of fuel ethanol product switch-loaded at the truck loadout on a rolling 12-month basis.

National Emissions Standards for Hazardous Air Pollutants Requirements

C. The owner or operator shall comply with the applicable standards in 40 CFR Part 63, Subparts A and FFFF including those not specifically mentioned in this permit.
   ii. The owner or operator of a Group 2 transfer rack shall load liquid products that contain organic hazardous air pollutants with a rack weighted average vapor pressure of less than 1.5 pound per square inch absolute.

i. The owner or operator shall maintain on-site records demonstrating that the rack weighted average vapor pressure meets the requirements of a Group 2 transfer rack.

Control Equipment Requirements

D. Flare CE-F50 shall meet the following requirements:
   i. Flare CE-F50 shall be operated at all times when emissions may be vented to it.
   ii. Flare CE-F50 shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
   iii. Flare CE-F50 shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

E. The owner or operator shall continuously verify the output of the flame detection system indicating the presence of a flame while loading.

F. The owner or operator shall inspect and maintain Flare CE-F50 according to the facility's (Plant No. 12-04-004) operation and maintenance plan.
   i. The owner or operator shall keep a log of all maintenance and inspection activities performed on Flare CE-F50. At a minimum, this log shall include:
      1. The date that any inspection and/or maintenance was performed on Flare CE-F50;
      2. Any issues identified during the inspection;
      3. Any issues addressed during the maintenance activities and the date each issue was resolved; and
      4. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 07-A-174-S4

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 30
Stack Opening, (inches, dia.): 60
Exhaust Flow Rate (scfm): 34,000
Exhaust Temperature (^{o}F): 1,400
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-174-S4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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** ☐

Operating Requirements and Associated Recordkeeping for this emission point fulfill the CAM Plan requirement.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP SEP11

Associated Equipment

Associated Emission Unit ID Numbers: EU 58, EU 59, EU 60, EU 61
Emissions Control Equipment ID Number: CE 11
Emissions Control Equipment Description: Flare (Natural Gas-Fired; 6.4 MMBtu/hr)

Emission Unit vented through this Emission Point: EU SEP11
Emission Unit Description: 4 Biomethanators
Raw Material/Fuel: Biogas
Rated Capacity: 350 gal/min (total capacity)

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 07-A-175-S3
567 IAC 23.3(2) "d"

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

Pollutant: Particulate Matter (PM)
Emission Limit: 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-175-S3
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 07-A-175-S3
567 IAC 23.3(3) "e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 0.42 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-175-S3

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 3.20 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-175-S3

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 1.77 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-175-S3
[(2)] TPY emission limits are based on operating limits.

Operating Requirements and Associated Recordkeeping

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

Operating Limits

A. The flare (CE 11) shall be limited to operating 1,752 hours per twelve-month rolling period.
B. The flare (CE 11) shall:
    - Be designed for and operated with no visible emissions except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours;
    - Be operated with a flame present at all times biogas is routed to the flare;
    - Be designed to ensure smokeless operation;
    - The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
C. The flare (CE 11) shall be inspected and maintained according to the facility's (Plant ID: 12-04-007) operating and maintenance plans.

Reporting and Recordkeeping

A. The owner or operator shall record the number of hours the flare (CE 11) is operated per twelve-month rolling period, rolled monthly.
B. The owner or operator shall monitor the presence of a flare pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.
C. The owner or operator shall keep records of control equipment inspections and repairs.

Authority for Requirement: DNR Construction Permit 07-A-175-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 34
Stack Opening, (inches, dia.): 24
Exhaust Flow Rate (scfm): 1,500
Exhaust Temperature (^{o}F): 1,800
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-175-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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** ☐

Operating Requirements and Associated Recordkeeping for this emission point fulfill the CAM Plan requirement.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP F80

Associated Equipment

Associated Emission Unit ID Numbers: EU P80
Emissions Control Equipment ID Number: CE 80
Emissions Control Equipment Description: Mist Eliminators

Emission Unit vented through this Emission Point: EU P80
Emission Unit Description: Cooling Tower
Raw Material/Fuel: Water
Rated Capacity: 3,480,000 gal/hr (total capacity of four cells)

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: DNR Construction Permit 07-A-176-S3
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 3.63 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-176-S3

Pollutant: Particulate Matter (PM)
Emission Limit: 3.63 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-176-S3
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

Operating Limits

A. The circulating water in the cooling tower shall not exceed 2500 parts per million (ppm) total dissolved solids (TDS).

B. The Mist Eliminator (CE 80) shall be designed to meet a control efficiency of 0.005% (gallons of drift per gallon of cooling water flow) or better.
C. Monitoring of the TDS shall be conducted on a monthly schedule [(1)].
D. The cooling tower shall be operated and maintained per the facility's (Plant ID 12-04-007) operating and maintenance plans.
E. The owner or operator shall use no water treatment chemicals that contain chromium compounds.
[(1)] A minimum of one (1) analysis shall be conducted each month. If more than one (1) analysis is conducted, the average of the analyses shall be used to demonstrate compliance.

Reporting & Recordkeeping
A. The owner or operator shall maintain records on-site of the TDS concentration in the cooling tower circulating water. Records shall also be kept of the dates of measurement and the methods used to determine the concentration of the TDS in the cooling water.
B. The owner or operator shall maintain records of all maintenance and repair to the cooling tower.
C. The owner or operator shall maintain MSDS for all water treatment chemicals used at the facility

Authority for Requirement: DNR Construction Permit 07-A-176-S3

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

Stack Height (ft, from the ground): 40
Stack Opening (inches, dia.): 304 diameter for each cell (4 cells in total)
Exhaust Flow Rate (scfm): 4,079,000 (total flowrate for 4 cells)
Exhaust Temperature (^{o}F): 84
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-176-S3

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 T61, EP T62, EP T63, EP T65

Associated Equipment

Table 1: Storage Tanks

Emission Point	Emission Unit	Emission Unit Description	Raw Material/Fuel	Rated Capacity (gallons)	Control Equipment	DNR Construction Permit
T61	T61	Denatured Ethanol Storage Tank	Ethanol	1,485,240	CE T61 (internal floating roof)	07-A-177-S1
T62	T62	Denatured Ethanol Storage Tank	Ethanol	1,485,240	CE T62 (internal floating roof)	07-A-178-S1
T63	T63	200 Proof Ethanol Storage Tank	Ethanol	195,000	CE T63 (internal floating roof)	07-A-179-S1
T65	T65	190 Proof Ethanol Storage Tank	Ethanol	195,000	CE T65 (internal floating roof)	07-A-181-S1

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: See Table 1: Storage Tanks
567 IAC 23.3(2)"d"

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

NSPS Applicability

EU ID	Subpart	Title	State Reference (567 IAC)	Federal Reference (40 CFR)
T61, T62, T63, T65	A	General Provisions	567 IAC 23.1(2)	§ 60.1 - § 60.19
	Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	567 IAC 23.1(2)"ddd"	§ 60.110b - § 60.117b

Operating Requirements and Associated Recordkeeping

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

Operating Limits

A. The owner or operator shall follow the applicable standards of Subpart Kb, 40 CFR 60.112b(a)(1), and inspect as required in 40 CFR 60.113b(a).

Reporting & Recordkeeping

A. The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel for the lifetime of the source.

B. The owner or operator shall follow the applicable recordkeeping and reporting standards of Subpart Kb, 40 CFR 60.115b through 60.116b.

Authority for Requirement: See Table 1: Storage Tanks

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): NA
Stack Opening, (inches, dia.): NA
Exhaust Flow Rate (scfm): See Note
Exhaust Temperature (^{o}F): Ambient
Discharge Style: NA
Authority for Requirement: See Table 1: Storage Tanks

Note: The air flow from this unit is the result of working and breathing losses. As a result, the air flow will vary dependent on ambient and operating conditions.

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 T64

Associated Equipment

Associated Emission Unit ID Numbers: EU T64
Emissions Control Equipment ID Number: CE T64
Emissions Control Equipment Description:

Emission Unit vented through this Emission Point: EU T64
Emission Unit Description: Denaturant Storage Tank
Raw Material/Fuel: Denaturant
Rated Capacity: 195,000 gallons

Applicable Requirements

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

There are no emission limits at this time.

NSPS and NESHAP Applicability

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU-T64	A	General Provisions	NA	23.1(2)	§60.1 – §60.19
	Kb	NSPS for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification commenced after July 23, 1984	Capacity > 19,800 gallons	23.1(d)"ddd"	§60.110b - §60.117b

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU-T64	A	General Provisions	NA	23.1(4)	§63.1 – §63.15
	FFFF	NESHAP for Miscellaneous Organic Chemical Manufacturing	Group 1 Storage Tank	23.1(4)"cf"	§63.2430 - §63.2550

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:
New Source Performance Standards Requirements

A. The owner or operator shall comply with the applicable requirements in 40 CFR Part 60, Subpart Kb [§60.110b – §60.117b], including those not specifically mentioned in this

permit.

i. The owner or operator shall inspect the Internal Floating Roof CE-T64 per the requirements of 40 CFR §60.113b(a).

ii. The owner or operator shall comply with the applicable monitoring requirements in 40 CFR §60.116b.

iii. Per 40 CFR §60.116b(b), the owner or operator shall keep readily accessible records showing the dimension of Denaturant Storage Tank (EU-T64) and an analysis showing the capacity of this vessel. These records shall be kept on-site for the life of the unit.

National Emissions Standards for Hazardous Air Pollutants Requirements

B. The owner or operator shall comply with the applicable standards in 40 CFR Part 63, Subparts A and FFFF including those not specifically mentioned in this permit.

i. Per 40 CFR 63.6(e)(iii)(3), the owner or operator shall develop a written start-up, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the equipment during periods of start-up shutdown, and malfunction; and a program of corrective action for malfunctioning process, air pollution control, and monitoring equipment used to comply with the applicable requirements.

ii. The owner or operator shall comply with the notification, reporting, and recordkeeping requirements as outlined in 40 CFR §63.2515, §63.2520, and §63.2525, respectively.

Authority for Requirement: DNR Construction Permit 07-A-180-S2

Emission Point Characteristics

These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 36
Stack Opening, (inches, dia.): 4 squared vents: 12 X 36 inches, each; 1 top circular vent: 10 inches
Exhaust Flow Rate (scfm): Displacement
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 07-A-180-S2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 FP

Associated Equipment

Associated Emission Unit ID Numbers: EU FP

Emission Unit vented through this Emission Point: EU FP
Emission Unit Description: Fire Water Pump
Raw Material/Fuel: Diesel
Rated Capacity: 300 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: DNR Construction Permit 07-A-182-S1
567 IAC 23.3(2)"d"

(1) An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 1.0 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

Pollutant: Particulate Matter (PM)
Emission Limit: 1.0 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 0.93 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 14.2 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.13 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

Pollutant: Carbon Monoxide (CO)
Emission Limit: 3.06 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-182-S1

NSPS and NESHAP Applicability

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 a fire pump engine.

In accordance with §60.4202(d), the engine must comply with the emissions standards for fire pumps from §60.4205 (c) and §60.4202 (d). The emission standards that the engine must be certified by the manufacturer to meet are:

Pollutant	Emission Standard	Basis
Particulate Matter (PM)	0.54 grams/kW-hr	§ 89.112 Table 1
NMHC[(1)] + NOx	10.5 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

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

Authority for Requirement: 40 CFR Part 60 Subpart IIII
DNR Construction Permit 07-A-182-S1
567 IAC 23.1(2)"yyy"

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 reciprocating internal combustion engine located at a major source of HAP, and it is rated less than or equal 500 HP. In accordance with §63.6590 (c)(6), the engine must comply with the requirements of

Subpart ZZZZ by meeting the requirements of NSPS subpart IIII. No further requirements apply to this engine under Subpart ZZZZ.

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ
DNR Construction Permit 07-A-182-S1
567 IAC 23.1(4)"cz"

Operating Requirements and Associated Recordkeeping

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

Operating Limits

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition D below.
B. This engine is limited to operating a maximum of 100 hours in any rolling 12-month period.
C. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4219 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. above 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.
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 & Recordkeeping

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 Permit 07-A-182-S1

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

Stack Height (ft, from the ground): 8
Stack Opening (inches, dia.): 5
Exhaust Flow Rate (scfm): 750
Exhaust Temperature (^{o}F): 770
Discharge Style: Obstructed Vertical
Authority for Requirement: DNR Construction Permit 07-A-182-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 F110

Associated Equipment

Associated Emission Unit ID Number: EU F110
Emissions Control Measure Description: Leak Detection and Repair (LDAR)

Emission Unit vented through this Emission Point: EU F110
Emission Unit Description: Fugitive Emissions from Equipment Leaks
Raw Material/Fuel: VOC Fugitive Emissions
Rated Capacity: NA

Applicable Requirements

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

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 12.27 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-183-S1

NSPS and NESHAP Applicability

The equipment leaks at this facility are subject to the requirements of the New Source Performance Standard (NSPS) for Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006 (40 CFR 60 Subpart VVa; 567 IAC 23.1(2)"nn").

This facility is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (40 CFR 63 Subpart FFFF; 567 IAC 23.1(4)"cf"). The requirements that specifically apply to the equipment leaks are found in 40 CFR 63.2480.

Authority for Requirement: DNR Construction Permit 07-A-183-S1

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

Operating Limits

A. The owner/operator shall comply with all requirements of the New Source Performance Standard (NSPS) 40 CFR 60 Subpart VVa.
B. The owner/operator shall comply with all requirements of the National Emission Standard for

Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing 40 CFR 63 Subpart FFFF and all referenced subparts as applicable.

Reporting & Recordkeeping

A. From each months leak detection tracking information determine the following for each component type:
    i. The fraction of sources that were repaired the previous month that were found to be leaking this month.
    ii. The fraction of sources that were successfully repaired after being found to leaking in the previous months monitoring.
    iii. The fraction of sources that were found to not be leaking during the previous months monitoring that were found to be leaking during this month's monitoring.
B. Using the information collected in A. above, determine the control efficiency of the leak detection and repair program as outlined in EPA's document 453/R-95-017 titled Protocol for Equipment Leak Emission Estimates (page 5-54 through 5-57) Control efficiencies listed in table 5.2 (page 5-9) may be assumed for those components listed. If these control efficiencies are assumed, the information required by A. above need not be recorded for that component type.
C. Using the information collected above, determine the VOC emissions over the previous month from the facility using the calculation methods outlined in EPA's document 453/R-95-017 titled Protocol for Equipment Leak Emission Estimates (page 2-11).
D. At the end of each month, record the total VOC emissions over the previous month from the facility by adding the emissions totals for each section as determined in C.
E. At the end of each month, record the total VOC emissions over the previous twelve (12) months as determined in D above.
F. The owner/operator shall maintain all records required by the New Source Performance Standard and outlined in 40 CFR 60 Subpart VVa.
G. The owner/operator shall maintain all records required by the National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart FFFF and all applicable referenced subparts.

Authority for Requirement: DNR Construction Permit 07-A-183-S1

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP F120

Associated Equipment

Associated Emission Unit ID Numbers: EU F120
Emissions Control Equipment ID Number: CE F120
Emissions Control Equipment Description: Sweeping

Emission Unit vented through this Emission Point: EU F120
Emission Unit Description: Truck Traffic
Raw Material/Fuel: Truck Traffic
Rated Capacity: 115,664 vehicle miles traveled per year

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): No Visible Emissions [(1)]
Authority for Requirement: DNR Construction Permit 07-A-184-S4
567 IAC 23.3(2)"c"

[(1)] The owner or operator shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dust beyond the lot line of the property.

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit: 1.16 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-184-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 4.05 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-184-S4

Pollutant: Particulate Matter (PM)
Emission Limit: 20.24 tons/yr [(2)]
Authority for Requirement: DNR Construction Permit 07-A-184-S4

[(2)] Facility's request to account for the increase in truck traffic. It is based on 27.5 tons average vehicle weight; 115,664 vehicle miles traveled per year; and 1.10 g/m^2 maximum surface silt loading.

Operating Requirements and Associated Recordkeeping

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the 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 pave all haul roads prior to the receipt of any grain.
B. Truck traffic on haul roads shall not exceed 10 miles per hour. The owner or operator shall post the speed limit on all haul roads.
C. The owner or operator shall clean haul roads by sweeping to control fugitive emissions.
    1. Cleaning of the haul roads shall be done Monday, Wednesday, and Friday each weak, weather permitting.
    2. Any spills on the haul roads shall be cleaned immediately.
    3. Haul roads cleaning need not occur under the following conditions:
        i. Weather.
            1. If cleaning cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35ºF or road conditions due to weather could create hazardous driving conditions (i.e., completely covered with snow and/or ice), then the haul roads cleaning shall be postponed and accomplished the next scheduled cleaning day after the conditions preventing the cleaning have abated.
            2. Whenever a rain gauge located at the site indicates that *at least* 0.2 inch of precipitation (water equivalent) has occurred within the preceding 24-hour time period. It may be assumed that the surfaces have been sufficiently cleaned and that day shall be counted as a cleaning day.
            3. If the haul roads are not cleaned due to weather, a written record must be kept on-site outlining the conditions that impeded haul roads cleaning.
        ii. Whenever the haul roads will not be used or if the plant will not receive any truck traffic that day.
D. Haul road surface silt loading testing shall be completed on a quarterly basis using an industry standard sampling method or procedure.
    1. Quarterly silt loading testing shall be completed prior to haul road sweeping for that day.
    2. Should the quarterly test exceed 0.99 g/m^2, the owner or operator shall complete silt loading testing on a monthly basis beginning the next month after the test exceeded 0.99 g/m^2. Monthly testing shall continue until 3 consecutive tests are less than 0.99 g/m^2, after which quarterly testing shall resume.
    3. Provided 8 consecutive silt loading testing results demonstrate compliance with the PM, PM_{10} and $PM_{2.5}$ emission limits in Permit Condition 1, the owner or operator may discontinue silt sampling and may utilize an average silt loading factor. The average silt loading factor is to be calculated by averaging all silt loading sample results collected over the previous 8 quarters.
    4. The owner or operator shall maintain records including:

i. The date when silt loading testing occurs;
ii. The results of the testing; and
iii. The method used to perform the testing.

E. The owner or operator shall comply with the PM, PM_{10} and $PM_{2.5}$ emission limits under Applicability Requirements.
1. The owner or operator shall record the PM, PM_{10} and $PM_{2.5}$ emissions from truck traffic on a monthly basis.
2. The owner or operator shall calculate and record PM, PM_{10} and $PM_{2.5}$ emissions from truck traffic on a rolling 12-month basis.

F. On a monthly basis, the owner or operator shall:
1. Record the number of trucks that loaded/unloaded material;
2. Record the vehicle miles traveled during the month; and
3. Calculate and record PM, PM_{10} and $PM_{2.5}$ emissions using the following formulas, which are based on:
i. Equation 1 and Table 13.2.1-1 from AP-42, Section 13.2.1 – *Paved Roads* and
ii. An average vehicle weight of 27.5 tons.

$$E_{PM} = \frac{[0.323 * VMT * (sL)^{0.91}]}{2000}$$

Where E_{PM} = tons PM emitted during the month
VMT = Vehicle miles traveled during the month
sL = road surface silt loading (g/m^2) from the month test

$$E_{PM10} = \frac{[0.065 * VMT * (sL)^{0.91}]}{2000}$$

Where E_{PM10} = tons PM_{10} emitted during the month
VMT = Vehicle miles traveled during the month
sL = road surface silt loading (g/m^2) from the month test

$$E_{PM2.5} = \frac{[0.016 * VMT * (sL)^{0.91}]}{2000}$$

Where $E_{PM2.5}$ = tons $PM_{2.5}$ emitted during the month
VMT = Vehicle miles traveled during the month
sL = road surface silt loading (g/m^2) from the month test

G. The owner or operator shall maintain a log for the haul roads that show the following:
1. Daily records of whether sweeping on the haul roads was performed or not;
2. Weekly records on the number of days that cleaning on the haul roads was performed;

3. Weekly records on the type of haul road cleaning, e.g., sweeping, water flushing, a rainfall event, etc. performed; and
4. The operator's initials.

Authority for Requirement: DNR Construction Permit 07-A-184-S4

Emission Point Characteristics

There is no physical stack associated with Truck Traffic (EU-F120). Emissions from EU-F120 are fugitive emissions generated by vehicle traffic on roadways inside the facility.

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 F130

Associated Equipment

Associated Emission Unit ID Numbers: EU F130

Emission Unit vented through this Emission Point: EU F130
Emission Unit Description: WDGS Storage and Loadout (Wet Cake)
Raw Material/Fuel: WDGS
Rated Capacity: 75 tons/hr

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40% (1) (2)
Authority for Requirement: DNR Construction Permit 07-A-185-S1
567 IAC 23.3(2)"d"

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

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

Operating Limits

A. Total wet cake production (WDGS) shall not exceed 258,238 tons per twelve-month rolling period.

Reporting and Recordkeeping

A. At the end of each month, record the amount of WDGS produced over the previous month.
B. At the end of each month, record the amount of WDGS produced over the previous twelve (12) months.

Authority for Requirement: DNR Construction Permit 07-A-185-S1

Emission Point Characteristics
Emissions from this source are evaporative losses of organics left in the distiller's grains as they are piled on the pad. Exact conditions will be dependent of facility operating parameters and ambient conditions at the time.

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP S150

Associated Equipment

Associated Emission Unit ID Number: EU 150

Emission Unit vented through this Emission Point: EU S150
Emission Unit Description: Whole Stillage Tank
Raw Material/Fuel: Stillage
Rated Capacity: 180,000 gallons

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: VOC
Emission Limit: 4.95 lb/hr
Authority for Requirement: DNR Construction Permit 14-A-213-S1

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

Stack Height (ft, from the ground): 51
Stack Opening (inches, dia.): 17
Exhaust Flow Rate (scfm): Working and Breathing Loss
Exhaust Temperature (^{o}F): 180
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 14-A-213-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 F22

Associated Equipment

Associated Emission Unit ID Numbers: EU F22

Emission Unit vented through this Emission Point: EU F22
Emission Unit Description: Open Transportation Devices
Raw Material/Fuel: Ethanol Loading Fugitives
Rated Capacity: NA

Applicable Requirements

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

Pollutant: Opacity [(1)]
Emission Limit(s): No Visible Emissions
Authority for Requirement: DNR Construction Permit 14-A-214
567 IAC 23.3(2)"c"

[(1)] The permit holder shall take all reasonable precautions to prevent visible emissions from crossing the property line of this facility.

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping for this permit shall be:

Operating Limits

A. The owner/operator shall develop and follow a best management practice to minimize emission from open transportation vessels. This best management practice shall at a minimum outline the action steps necessary to minimize the amount of time a vessel is open without being connected to a vapor collection system or a system that would draw air into the vessel.
B. No product shall be loaded into a vessel prior to the connection of the vapor collection system to the vessel.

Reporting & Recordkeeping

A. Maintain a copy of the best management practice available for review.

Authority for Requirement: DNR Construction Permit 14-A-214

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 S31 and S32

Associated Equipment

Associated Emission Unit ID Numbers: EU 78 and EU 79
Emissions Control Equipment ID Number: CE C31 and C32
Emissions Control Equipment Description: Baghouses

Emission Unit vented through this Emission Point: EU 78 and EU 79
Emission Unit Description: Grind System #1 and #2
Raw Material/Fuel: Grain
Rated Capacity: 28 tons/hr (each system)

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: DNR Construction Permits 17-A-515-S1, 17-A-516-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit: 0.91 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 17-A-515-S1, 17-A-516-S1
567 IAC 23.4(7)

Operating Requirements and Associated Recordkeeping
All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the 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 operate and maintain the Baghouses (CE C31 and CE C32) according to the facility's operation and maintenance plan. The owner or operator shall maintain a log of all maintenance and inspection activities performed on the Baghouses (CE C31 and CE C32). This log shall include, but is not necessarily limited to:
    1. The date any inspection and/or maintenance was performed on the Baghouses (CE C31 and CE C32);
    2. Any issues identified during the inspection;
    3. Any issues addressed during the maintenance activities; and

4. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permits 17-A-515-S1, 17-A-516-S1

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

Stack Height (ft, from the ground):
Stack Opening (inches, dia.): 40.6
Exhaust Flow Rate (scfm): 10,800
Exhaust Temperature (^{o}F): Ambient
Discharge Style: Vertical, unobstructed
Authority for Requirement: DNR Construction Permits 17-A-515-S1, 17-A-516-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S31 and EP S32 – Grind System #1 and Grind System #2 Baghouses

I. Background

A. Emissions Unit

Description: Grind System #1 (EU 78) and Grind System #2 (EU 79)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 17-A-515-S1
	Construction Permit 17-A-516-S1
PM Emission Limit or Standard:	0.91 lb/hr; 0.1 gr/dscf

C. Control Technology

Fabric Filter Baghouses (CE C31 and CE32)

II. DDGS Cooler Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 6: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM emissions from the Grind System #1 (EU 78) and Grind System #2 (EU79) are controlled by the Grind System #1 Baghouse and Grind System #2 Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S111 and S112

Associated Equipment

Associated Emission Unit ID Numbers: EU 115 and EU 116
Emissions Control Equipment Description: Low NOx Burners

Emission Unit vented through this Emission Point: EU 115 and EU 116
Emission Unit Description: Protein Dryer A and B (Start-up stacks) – Natural Gas Combustion exhaust
Raw Material/Fuel: Natural Gas
Rated Capacity: 46 MMBtu/hr (each dryer)

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.34 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Pollutant: Particulate Matter (PM)
Emission Limit: 0.34 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit: 2.0 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Pollutant: Carbon Monoxide (CO)
Emission Limit: 3.8 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 0.25 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Pollutant: Hazardous Air Pollutants (Total)
Emission Limit: 0.09 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Operating Requirements and Associated Recordkeeping

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

A. The facility is allowed to operate the start-up stacks, EP S111 and EP S112, no more than 200 hours combined in any rolling 12-month period.
B. The owner or operator shall maintain monthly records of EP S111 and EP S112 operation. The owner or operator shall calculate and record the rolling 12-month totals.
C. The facility shall not route protein to the protein dryers when the protein dryer exhaust is venting through EP S111 and EP S112.
D. The owner/operator shall monitor the natural gas input to the protein dryer A and B, when exhaust is routed to EP S111 and EP S112.
    i. Record the amount of natural gas input to the protein dryer A and B in MMBtu, when exhaust is routed to EP S111 and EP S112.
    ii. Record the time, in hours per month, when exhaust is routed to EP S111 and EP S112.
E. The control equipment shall be inspected and maintained according the facility's (Plant ID 12-04-007) operation and maintenance plan.
    1. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Stack Height (ft, from the ground): 67
Stack Opening (inches, dia.): 42
Exhaust Flow Rate (scfm): 34,000 to 45,000
Exhaust Temperature (^{o}F): 237
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permits 18-A-610, 18-A-611

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 S140

Associated Equipment

Table 1: Protein Storage and Reclaim

Emission Unit	Emission Unit Description	Raw Material/Fuel	Rated Capacity (gallons)	Control Equipment
EU 140	Filter Conveyor (CS-15101)	Protein	25 tons/hr	Baghouse (CE C140)
EU 133	Protein Reclaim Hopper		25 tons/hr	
EU 138	Protein Silo Unloader Conveyor (BS-8110)		125 tons/hr	
EU 121	Protein Bucket Elevator (CE-15101)		150 tons/hr	

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: DNR Construction Permit 18-A-613-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.07 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-613-S1

Pollutant: Particulate Matter (PM)
Emission Limit: 0.12 lb/hr, 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 18-A-613-S1
567 IAC 23.4(7)
Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.0 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-613-S1

Pollutant: Hazardous Air Pollutants (Total)
Emission Limit: 0.10 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-613-S1

Operating Requirements and Associated Recordkeeping

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

A. The conveyors and hopper (EU 121, 133, 138, and 140) shall be enclosed.
B. The facility shall conduct visible emissions observation once per calendar day.
    a. The owner or operator shall collect and record the visible emissions observations.
    b. If visible emissions are observed, the owner or operator shall investigate Baghouse (CE C140) and make corrections to Baghouse (CE C140). The owner or operator shall maintain a record of all corrective actions taken.
    c. This requirement shall not apply on the days the Baghouse (CE 140) is not in operation.
C. The owner or operator shall operate, inspect and maintain all the equipment associated with the process and the Baghouse (CE C140) in accordance with the facility's (Plant ID 12-04-007) operation and maintenance plan.
    1. The owner or operator shall maintain a record of the facility's (Plant ID 12-04-007) operation and maintenance plan, all inspections, maintenance activities, and any actions resulting from the inspection or maintenance of the Baghouse (CE C140).

Authority for Requirement: DNR Construction Permit 18-A-613-S1

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Stack Height (ft, from the ground): 112
Stack Opening (inches, dia.): 10
Exhaust Flow Rate (scfm): 2,240
Exhaust Temperature (^{o}F): 110
Discharge Style: Vertical, unobstructed
Authority for Requirement: DNR Construction Permit 18-A-613-S1

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 S160

Associated Equipment

Associated Emission Unit ID Numbers: EU S160

Emission Unit vented through this Emission Point: EU S160
Emission Unit Description: Natural Gas Boiler #1
Raw Material/Fuel: Natural Gas
Rated Capacity: 49 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 % (1)
Authority for Requirement: DNR Construction Permit 19-A-100
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit: 0.6 lb/MMBtu
Authority for Requirement: DNR Construction Permit 19-A-100
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: DNR Construction Permit 19-A-100
567 IAC 23.3(3)"e"

NSPS and NESHAP Applicability

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
EU S160	A	General Provisions	NA	23.1(2)	§60.1 – §60.19
	Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	NA	23.1(2)"lll"	§60.40c-§60.48c

This unit is of the source category affected by the following federal regulation: *National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, Institutional Boilers and*

Process Heaters [40 CFR Part 63, Subpart DDDDD]. At the time of the issuance of this permit, the Department has not adopted this standard. As such, the USEPA shall be considered the administrator of this standard until the Department adopts this standard.

Operating Requirements and Associated Recordkeeping

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

A. The boiler (EU S160) shall combust only natural gas.

B. (1) Except as provided under paragraphs B(2) and B(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph B(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in 40 CFR 60.48c(f) to demonstrate compliance with the SO2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph B(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in 40 CFR 60.42c to use fuel certification to demonstrate compliance with the SO2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

C. The emissions of carbon monoxide (CO) from EP S160 and EP S10 shall not exceed 97.0 tons per twelve (12) month total, rolled monthly.

D. At the end of each month, record the amount of CO emitted from this emission point (EP S160) in tons during the previous month. The emissions for EP S160 shall be determined based on the MMBtu combusted per month and using an emission factor as follows:

1) For the period between the start of operation of this unit and the acceptance of the initial stack test, the emission factor shall be 0.084 lb/mmBTU;
2) After the initial stack test, the emission factor shall be calculated as follows:

EF_{S160} = (average of the three test runs) + 1.7 X (standard deviation of the three test runs)

E. At the end of each month, record the amount of CO emitted from this emission point (EP S160) and EP S10 over the previous twelve (12) months by summing the most recent combined twelve (12) values for EP S10 and EP S160.

F. The emissions of oxides of nitrogen (NOx) from EP S160 and EP S10 shall not exceed 97.0 tons per twelve (12) month total, rolled monthly.

G. The permittee shall use the NOx CEM data from EP S10, the natural gas fuel usage records, and the equation below to calculate and record the monthly NOx emissions from the

TO/HRSGs and boiler EU S160. The permittee shall maintain records of all data used to perform the calculations:

$NOx\ (ton/month) = [S10_{NOx}] \times [(1.2 \times NG_{TO/HRSG})/(\{1.2 \times NG_{TO/HRSG}\}+\{NG_{Dryers}\}+\{NG_{ProteinDryerA}\}+\{NG_{ProteinDryerB}\})] + [EF_{S160} \times NG_{S160}/2000]$

Where: $NOx\ (ton/month)$ = NOx from TO/HRSGs and boiler EU S160

$S10_{NOx}$ = total NOx emissions from stack S10 as measured by the CEM, in tons

$NG_{TO/HRSG}$ = amount of natural gas combusted in the TO/HRSGs in MMBtu

NG_{Dryers} = amount of natural gas combusted in the Dryers in MMBtu

1.2 = compliance margin

NG_{S160} = amount of natural gas combusted in EU S160 in MMBtu per month

$NG_{ProteinDryerA}$ = amount of natural gas combusted in Protein Dryer A in MMBtu per month; excluding the natural gas when exhaust is routed to EP S111 (Protein Dryer A start-up stack).

$NG_{ProteinDryerB}$ = amount of natural gas combusted in Protein Dryer B in MMBtu per month; excluding the natural gas when exhaust is routed to EP S112 (Protein Dryer B start-up stack).

EF_{S160} = NOx emission factor from the boiler in lb/mmBTU. This emission factor shall be determined as follows:

3) For the period between the start of operation of this unit and the acceptance of the initial stack test, the emission factor shall be 0.1 lb/mmBTU;
4) After the initial stack test, the emission factor shall be calculated as follows:

EF_{S160} = (average of the three test runs) + 1.7 X (standard deviation of the three test runs)

H. The permittee shall use the equation in condition G to determine the 12-month rolling total emissions of NOx from the TO/HRSGs and boiler EU S160 for each calendar month. New 12-month totals shall be calculated at the end of each month, for the previous month. The permittee may also assume that all NOx emissions from stack S10 are from the TO/HRSGs.

I. The owner/operator shall inspect the burner during each boiler tune-up. The burner shall be cleaned and any components shall be replaced as necessary.

J. The owner/operator shall inspect the flame pattern in the boiler during each boiler tune-up. The burner shall be adjusted consistent with the manufacturer's specifications to optimize the flame pattern as necessary.

K. The owner/operator shall inspect the system controlling air-to-fuel ratio in the boiler during each boiler tune-up.

L. The owner/operator shall optimize the CO and NOx emissions from the boiler during each boiler tune-up.

M. The owner/operator shall measure the concentration of CO in the effluent stream in parts per million, by volume, concentration of NOx in the effluent stream in parts per million, by volume, and the oxygen in volume percent both before and after adjustments are made. Measurements may be made on either a wet or a dry basis as long as the same basis is used before and after adjustments. Measurements may be made using the appropriate portable gas analyzers.

N. The following records shall be kept for each boiler tune-up performed.
   1. The date the boiler tune-up was performed;
   2. A description of any corrective acts taken as part of the tune-up;
   3. The concentration of CO in the effluent stream in parts per million, by volume, concentration of NOx in the effluent stream in parts per million, by volume, and the oxygen in volume percent measured at high fire or typical operating load before and after the tune-up of the boiler.

Authority for Requirement: DNR Construction Permit 19-A-100

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Stack Height (ft, from the ground): 33
Stack Opening (inches, dia.): 32
Exhaust Flow Rate (scfm): 9,325
Exhaust Temperature (^{o}F): 250
Discharge Style: Vertical, unobstructed
Authority for Requirement: DNR Construction Permit 19-A-100

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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.

Compliance Demonstration Table

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
NO_x	Record keeping/ Stack Testing (1)	On-going	1 hour	40 CFR 60, Appendix A, Method 7E
CO	Record keeping/ Stack Testing(1)	On-going	1 hour	40 CFR 60, Appendix A, Method 10

(1) Testing shall be completed once every 3 years with a minimum of 33 months between tests and a maximum of 39 months between tests. Results of each of the 3 runs shall be reported in lb/mmBTU to be used in the calculation of an emission factor to be used in the record keeping required under Operating Requirements.

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 S170

Associated Equipment

Table 1: Protein Process Tanks

Emission Unit	Emission Unit Description	Raw Material/Fuel	Rated Capacity
EU 122	Pressure Screen Feed Tank	Slurry	26,775 gallons
EU 123	Fiber Slurry Feed Tank	Protein Slurry	29,962 gallons
EU 124	Fiber Blowdown Tank	Slurry	35,263 gallons
EU 125	Clarifier Feed Tank	Slurry	33,687 gallons
EU 126	Clarifier Overflow Tank	Clarified Water	13,838 gallons
EU 127	Clarifier Underflow Tank	Wet Protein	13,828 gallons
EU 128	Acid Wash Tank	Acid	6,850 gallons
EU 129	Slurry Water Tank	Decanted Water	12,236 gallons
EU 131	Protein Decanters (6 units)	Protein Slurry	1,500 gallons per minute
EU 132	Protein Collection Conveyors	Wet Protein	40,000 lbs per hour

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: Volatile Organic Compounds (VOC)
Emission Limit: 2.70 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-614

Pollutant: Hazardous Air Pollutant (Single)
Emission Limit: 0.20 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-614

Pollutant: Hazardous Air Pollutant (Total)
Emission Limit: 0.28 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-614

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

Stack Height (ft, from the ground): 48
Stack Opening (inches, dia.): 12
Exhaust Flow Rate (scfm): 3,900 to 5,300
Exhaust Temperature (^{o}F): 234
Discharge Style: Vertical, obstructed
Authority for Requirement: DNR Construction Permit 18-A-614

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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 S180

Associated Equipment

Associated Emission Unit ID Numbers: EU 117
Emissions Control Equipment ID Number: CE C180
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU 117
Emission Unit Description: Protein Vacuum Cooler
Raw Material/Fuel: Protein
Rated Capacity: 8.9 tons of protein/hour

Applicable Requirements

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

Pollutant: Opacity
Emission Limit: 40 % (1)
Authority for Requirement: DNR Construction Permit 18-A-612
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.68 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-612

Pollutant: Particulate Matter (PM)
Emission Limit: 1.11 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 18-A-612
567 IAC 23.4(7)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 0.50 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-612

Pollutant: Hazardous Air Pollutant (Total)
Emission Limit: 0.25 lb/hr
Authority for Requirement: DNR Construction Permit 18-A-612

Operating Requirements and Associated Recordkeeping

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

A. The control equipment shall be inspected and maintained according the facility's (Plant ID 12-04-007) operation and maintenance plan.
    1. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: DNR Construction Permit 18-A-612

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Stack Height (ft, from the ground): 42
Stack Opening (inches, dia.): 36
Exhaust Flow Rate (scfm): 22,000 to 26,000
Exhaust Temperature (^{o}F): 110
Discharge Style: Vertical, unobstructed
Authority for Requirement: DNR Construction Permit 18-A-612

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

Compliance Assurance Monitoring Plan for Flint Hills Resources Shell Rock, LLC
Facility located in Shell Rock, Iowa

EP S180 – Protein Vacuum Cooler Baghouse

I. Background

A. Emissions Unit

Description: Protein Vacuum Cooler (EU 117)

Facility: Flint Hills Resources Shell Rock, LLC
Shell Rock, Iowa

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit 18-A-612
PM Emission Limit or Standard:	1.11 lb/hr; 0.1 gr/dscf

C. Control Technology

Fabric Filter Baghouse (CE C180)

II. DDGS Cooler Baghouse Monitoring Approach

A. Indicator

Pressure drop will be used as the performance indicator.

B. Measurement Approach

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are presented in Table 1.

Table 7: Monitoring Approach

I. Indicator	
Indicator	Differential pressure across the baghouse
Measurement / Approach	The pressure drop will be monitored and recorded at least once each day of operation.
II. Indicator Range	
Range	A pressure drop of 0.2 to 6 inches of water shall be maintained during operation.
Corrective Action	Procedures, system parameters, data trends will be reviewed and the functional operation of the equipment will be assessed to determine the cause of the excursion. Once the cause is identified, a repair or adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
Data Representativeness	Pressure drop is measured across the system
Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with the Facility Operation and Maintenance Plan.
Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection Procedures	The pressure drop will be recorded electronically or manually.
Averaging period	Not applicable.
Record Keeping	Maintain for a period of five years records and corrective actions taken in response to excursions.
Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually.

III. Justification

A. Background

PM emissions from the Protein Vacuum Cooler (EU 117) are controlled by the Protein Vacuum Cooler Baghouse.

B. Rationale for Selection of Performance Indicator

Baghouses operate by collecting particulate on porous fabric bags, thus resulting in a pressure differential across the system. The gas stream is passed through the fabric which results in pressure; too much pressure indicates a possible plugging of the system and too little indicates possible bag breakage. Therefore, pressure drop is the best indicator of baghouse performance.

C. Rationale for Selection of Indicator Level

Baghouses remove dust from a gas stream by passing the stream through a porous fabric. Particles form a porous cake on the fabric that acts as the filtration device. This porous cake is routinely removed and collected and returned to the process. Baghouses are highly efficient for controlling filterable PM. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.2 to 6 inches of water is recommended to achieve the required control efficiency.

The selected QIP threshold for the daily pressure drop is six excursions during a semi-annual reporting period. If the QIP threshold is exceeded during a semi-annual reporting period, a QIP will be developed and implemented.

Emission Point ID Number: EP S190, S191, S192, S193, S194, S195, S196, S197

Associated Equipment

Table 1: Bin Vent Filters

EP#	EU#	Emission Unit Description	Raw Material	Maximum Design Capacity	Control Equipment	DNR Construction Permit
S190, S191, S192, S193 S194	EU 118	Protein Truck and Rail Loading conveyor (CS-15112)	Protein	150 tons/hr	C190, C191, C192, C193, C194; Bin Vent Filters	18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464
	EU 119	Protein Truck and Rail Loadout		150 tons/hr		
	EU 136	Protein Loadout conveyor 3 (CD-15111)		150 tons/hr		
S195	EU 137	Protein Reclaim Top Conveyor (CD-15105)		150 tons/hr	C195; Bin Vent Filter	19-A-465
	EU 141	Protein Silo		191,848 cubic feet		
S196	EU 121	Protein Bucket Elevator (CE-15101)		150 tons/hr	C196; Bin Vent Filter	19-A-466
S197	EU 139	Protein Loadout L-Pass Conveyor (CD-15101)		125 tons/hr	C197; Bin Vent Filter	19-A-467
	EU 134	Protein Loadout Conveyor 1 (CD-15107)		150 tons/hr		
	EU 135	Protein Loadout Conveyor 2 (CD-15110)		150 tons/hr		

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit: 40 % [(1)]
Authority for Requirement: See Table 1: Bin Vent Filters
567 IAC 23.3(2)"d"

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

For EPs S190, S191, S192, S193, S194
Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.121 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464

Pollutant: Particulate Matter (PM)
Emission Limit: 0.121 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464
567 IAC 23.4(7)

For EPs S195, S197
Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.16 lb/hr
Authority for Requirement: DNR Construction Permits 19-A-465, 19-A-467

Pollutant: Particulate Matter (PM)
Emission Limit: 0.16 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 19-A-465, 19-A-467
567 IAC 23.4(7)

For EP S196
Pollutant: Particulate Matter (PM_{10})
Emission Limit: 0.10 lb/hr
Authority for Requirement: DNR Construction Permit 19-A-466

Pollutant: Particulate Matter (PM)
Emission Limit: 0.10 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 19-A-466
567 IAC 23.4(7)

For EPs S190, S191, S192, S193, S194, S197 (combined)
Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.0 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464, 19-A-467

Pollutant: Hazardous Air Pollutants (HAP), Total
Emission Limit: 0.1 lb/hr
Authority for Requirement: DNR Construction Permits 18-A-615-S1, 19-A-461, 19-A-462, 19-A-463, 19-A-464, 19-A-467

For EPs S195, S196 (combined)
Pollutant: Volatile Organic Compounds (VOC)
Emission Limit: 1.0 lb/hr
Authority for Requirement: DNR Construction Permits 19-A-465, 19-A-466

Pollutant: Hazardous Air Pollutants (HAP), Total
Emission Limit: 0.1 lb/hr
Authority for Requirement: DNR Construction Permits 19-A-465, 19-A-466

Operating Requirements and Associated Recordkeeping

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

A. The facility shall loadout a maximum of 78,000 tons of protein per rolling 12-month period.
    1. The owner or operator shall track Protein loaded out at the facility on a monthly basis. Calculate and record the rolling 12-month total.
B. The conveyors (EU 118, 119, 134 through EU-137, 139, and 140) shall be enclosed.
C. The facility shall conduct visible emissions observation on EP S190 through S197 once per calendar day.
        a. The owner or operator shall collect and record the visible emissions observations.
        b. If visible emissions are observed, the owner or operator shall investigate Bin Vents (CE C190 through C197) and make corrections to Bin Vents (CE C190 through C197). The owner or operator shall maintain a record of all corrective actions taken.
        c. This requirement shall not apply on the days the Bin Vents (CE C190 through C197) is not in operation.
D. The owner or operator shall operate, inspect and maintain all the equipment associated with the process and the Bin Vents (CE S190 through S197) in accordance with the facility's (Plant ID 12-04-007) operation and maintenance plan.
    1. The owner or operator shall maintain a record of the facility's (Plant ID 12-04-007) operation and maintenance plan, all inspections, maintenance activities, and any actions resulting from the inspection or maintenance of the Bin Vents (CE C190 through C197).

Authority for Requirement: See Table 1: Bin Vent Filters

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

EP ID	Stack Height, Feet	Discharge Style	Stack Opening, inches	Stack Temperature, °F	Exhaust Flowrate, SCFM
S190	25	Inside*	8	Ambient	1411
S191	25	Inside*	8	Ambient	1411
S192	25	Inside*	8	Ambient	1411
S193	25	Inside*	8	Ambient	1411
S194	25	Inside*	8	Ambient	1411
S195	110	Horizontal	4	Ambient	188
S196	45	Horizontal	6	Ambient	1176
S197	55	Horizontal	4	Ambient	188

*The stack vents inside a structure or building.

Authority for Requirement: See Table 1: Bin Vent Filters

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that 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)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code 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, Wallace State Office Building, 502 E 9th St., Des Moines, IA 50319-0034, 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 Permitting & Standards Branch, 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 emissions inventory shall be submitted annually by March 31 with forms specified by the department documenting actual emissions for the previous calendar year.
4. The fee shall be submitted annually by July 1 with forms specified by the department.
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 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) 725-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the

case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 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), record keeping, 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 <u>except</u> 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. 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 or greenhouse gas generating substances to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 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
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-9526

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:

Iowa Compliance Officer
Air Branch
Enforcement and Compliance Assurance Division
U.S. EPA Region 7
11201 Renner Blvd.
Lenexa, KS 66219
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(515) 725-8200

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
Wallace State Office Building
502 E 9th St.
Des Moines, IA 50319-0034
(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

V. Appendix

A. 40 CFR 60 Subpart A – *General Provisions*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.a

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 Kb – Standards of Performance for *Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)* for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.k_0b

D. 40 CFR 60 Subpart VVa – Standards of Performance for *Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry* for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006.
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.vv_0a

E. 40 CFR 60 Subpart IIII - Standards of Performance for *Stationary Compression Ignition Internal Combustion Engines*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.7.60.iiii

F. 40 CFR 63 Subpart FFFF – National Emission Standard for Hazardous Air Pollutants for *Miscellaneous Organic Chemical Manufacturing.*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.13.63.ffff

G. 40 CFR 63 Subpart ZZZZ – National Emission Standard for Hazardous Air Pollutants for *Stationary Reciprocating Internal Combustion Engines.*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.14.63.zzzz

I. 40 CFR 63 Subpart DDDDD - National Emission Standards For Hazardous Air Pollutants For *Industrial, Commercial, And Institutional Boilers And Process Heaters*
http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=SUBPART&n=sp40.14.63.ddddd