Iowa Department of Natural Resources
Title V Operating Permit

Name of Permitted Facility: Flint Hills Resources Arthur, LLC
Facility Location: 2585 Quail Avenue, Arthur, IA 51431
Air Quality Operating Permit Number: 10-TV-008R1-M001
Expiration Date: 10/25/2020
Permit Renewal Application Deadline: 04/25/2020

EIQ Number: 92-6807
Facility File Number: 47-04-001

Responsible Official
Name: Brian Bence
Title: Plant Manager
Mailing Address: 2585 Quail Avenue, Arthur, IA 51431
Phone #: 712-367-2730

Permit Contact Person for the Facility
Name: Sufana Huq
Title: Environmental Manager
Mailing Address: 2585 Quail Avenue, Arthur, IA 51431
Phone #: 712-367-2708

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

Lori Hanson 9/27/16

Lori Hanson, Supervisor of Air Operating Permits Section — Date

Table of Contents

I. Facility Description and Equipment List **5**

II. Plant - Wide Conditions **9**

III. Emission Point Specific Conditions **11**

IV. General Conditions **108**

G1. Duty to Comply
G2. Permit Expiration
G3. Certification Requirement for Title V Related Documents
G4. Annual Compliance Certification
G5. Semi-Annual Monitoring Report
G6. Annual Fee
G7. Inspection of Premises, Records, Equipment, Methods and Discharges
G8. Duty to Provide Information
G9. General Maintenance and Repair Duties
G10. Recordkeeping Requirements for Compliance Monitoring
G11. Evidence used in establishing that a violation has or is occurring.
G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification
G13. Hazardous Release
G14. Excess Emissions and Excess Emissions Reporting Requirements
G15. Permit Deviation Reporting Requirements
G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations
G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification
G18. Duty to Modify a Title V Permit
G19. Duty to Obtain Construction Permits
G20. Asbestos
G21. Open Burning
G22. Acid Rain (Title IV) Emissions Allowances
G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements
G24. Permit Reopenings
G25. Permit Shield
G26. Severability
G27. Property Rights
G28. Transferability
G29. Disclaimer
G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification
G31. Prevention of Air Pollution Emergency Episodes
G32. Contacts List

V. Appendices:……**122**
A. 40 CFR 60 Subpart A – General Provisions
B. 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
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
D. 40 CFR 60 Subpart DD – Standards of Performance for Grain Elevators
E. 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
F. 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
G. 40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
H. 40 CFR 63 Subpart A – General Provisions
I. 40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
J. DNR Construction Permit 07-A-071-S8

Abbreviations

acfm.....actual cubic feet per minute
CFR.....Code of Federal Regulation
CE .....control equipment
CEM.....continuous emission monitor
^{o}F .....degrees Fahrenheit
EIQ.....emissions inventory questionnaire
EP.....emission point
EU .....emission unit
gr./dscf .....grains per dry standard cubic foot
gr./100 cf .....grains per one hundred cubic feet
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
MVAC.....motor vehicle air conditioner
NAICS.....North American Industry Classification System
NSPS .....new source performance standard
ppmv .....parts per million by volume
lb./hr .....pounds per hour
lb./MMBtu .....pounds per million British thermal units
SCC.....Source Classification Codes
scfm.....standard cubic feet per minute
SIC……..Standard Industrial Classification
TPY .....tons per year
USEPA.....United States Environmental Protection Agency

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 Arthur, LLC
Permit Number: 10-TV-008R1-M001

Facility Description: Fuel Ethanol Manufacturing (SIC 2869)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
S10	01	DDGS Dryer A	07-A-068-S10
	02	DDGS Dryer B	
	03	DDGS Dryer C	
	04	DDGS Dryer D	
	05	Process Distillation Vents	
	06	Mixer	
	07	Slurry Tank A	
	08	Slurry Tank B	
	09	Cook Tube #1	
	09b	Cook Tube #2	
	10	Cook Flash Vessel	
	11	Receiver Tank	
	12	Liquefaction Tank #1	
	13	Liquefaction Tank #2	
	14	Yeast Tank #1	
	15	Yeast Tank #2	
	16	Beer Column	
	17	Side Stripper	
	18	Rectifier Column	
	19	190 Proof Condenser	
	E47	Molecular Sieve Bottle #1	
	E48	Molecular Sieve Bottle #2	
	E49	Molecular Sieve Bottle #3	
	E50	Molecular Sieve Bottle #4	
	E51	Molecular Sieve Bottle #5	
	E52	Molecular Sieve Bottle #6	
	E106	Molecular Sieve Bottle #7	
	E107	Molecular Sieve Bottle #8	
	E109	Molecular Sieve Bottle #9	
	26	200 Proof Flash Receiver	
	27	Centrifuge #1	
	28	Centrifuge #2	
	29	Centrifuge #3	
	30	Centrifuge #4	
	31	Centrifuge #5	

Emission Point Number	Emission Unit Number	Emission Unit Description	DNR Construction Permit Number
	32	Centrifuge #6	
	33	Evaporator #1	
	34	Evaporator #2	
	35	Evaporator #3	
	36	Evaporator #4	
	37	Evaporator #5	
	38	Evaporator #6	
	39	Evaporator #7	
	40	Evaporator #8	
	20	Molecular Sieve Vaporizer	
	21	200 Proof Flash Tank	
	22	Centrate Tank #1	
	23	Centrate Tank #2	
	24	Reflux Tank	
	25	Regen Tank	
	41	CIP Screen/Tank	
	42	Acid Wash Tank	
	132	Heat Recovery Boiler A	
	133	Heat Recovery Boiler B	
	68	Methanators #1	
	69	Methanators #2	
	70	Methanators #3	
	71	Methanators #4	
	110	Evaporated Stillage Process Tank	
S20	43	Truck Receiving Area	07-A-069-S4
	44	Rail Receiving Area	
	45	Storage Conveyor	
	46	Grain Elevator #1	
	47	Grain Silo #1	
	48	Grain Silo #2	
	49	Emptying Conveyor	
	50	Grain Elevator #2	
	51	Grain Day Bin #1	
	52	Grain Day Bin #2	
S30	53	Hammer Mill Feed Conveyor	07-A-070-S4
	54	Hammer Mills #1	
	55	Hammer Mills #2	
	56	Hammer Mills #3	
	57	Hammer Mills #4	
S31	78	Hammermill Feed Conveyor	16-A-115
	79	Hammer Mill #5	
	82	Hammer Mill Drag Conveyor	
S32	78	Hammermill Feed Conveyor	16-A-116
	81	Hammer Mill #6	
	82	Hammer Mill Drag Conveyor	

S40	58	Fermenter #1	07-A-071-S8
	59	Fermenter #2	
	60	Fermenter #3	
	61	Fermenter #4	
	62	Fermenter #5	
	63	Fermenter #6	
	64	Fermenter #7	
	106	Fermenter #8	
	107	Fermenter #9	
	65	Beer Well	
S50	66	Product Loadout (Truck)	07-A-072-S4
	66	Product Loadout (Rail)	
	66	Vapor Recovery Combustion	
S60	68	Methanators #1	07-A-073-S2
	69	Methanators #2	
	70	Methanators #3	
	71	Methanators #4	
S70	S70	DDGS Cooling Drum	07-A-074-S5
F80	F80	Cooling Tower	07-A-075-S3
S90	74	DDGS Storage Silo	07-A-076-S2
	75	DDGS Storage Silo	
	76	DDGS Dump Pit Auger	
	77	DDGS Loadout	
S110	S110	Emergency Fire Water Pump	07-A-077-S2
FUG6	FUG6	Truck Traffic	07-A-079-S2
T01	T01	190 Proof Ethanol Storage Tank	07-A-080-S2
T02	T02	200 Proof Ethanol Storage Tank	07-A-081-S2
T03	T03	Denaturant Storage Tank	07-A-084-S1
T04	T04	Ethanol Storage Tank #1	07-A-082-S2
T05	T05	Ethanol Storage Tank #2	07-A-083-S2
T06	T06	Corrosion Inhibitor Storage Tank	08-A-228
FUG5	FUG5	VOC emissions from equipment leaks	07-A-078-S3
S120	S120	Column Grain Dryer	10-A-323
S130	E130	Steel Corn Storage Bin	10-A-324-S2
	E131	Steel Corn Storage Bin	
S150	E110	Steel Bin Receiving Pit	11-A-646-S3
	E111	Steel Bin Receiving Elevator	
	E112	Truck Corn Loadout	
180	180	Admin Building Emergency Generator	NA
185	185	Control Room Emergency Generator	NA

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EP 8301	Corn Oil Storage Tank #1 (0.16 psi)
EP 8302	Corn Oil Storage Tank #2 (0.16 psi)
EP 8308	Corn Oil Storage Tank #3 (0.16 psi)
EP 8304	Corn Oil Storage Tank #4 (0.16 psi)
EP 8305	20000 gal Corn Oil Storage Tank #1 (0.16 psi)
EP 8306	20000 gal Corn Oil Storage Tank #2 (0.16 psi)
EP 8307	20000 gal Corn Oil Storage Tank #3 (0.16 psi)
E204	Corn Oil Loadout
E207	Temporary Corn Storage Pile
E208	Three DDGS Pellet Mills with Coolers
E209	Wet Cake
E210	Rail Unloading
F170	Cement Silo Truck Loadout Spout
E201	Thin Stillage Tank (0.70 psi)
E211	Whole Stillage Tank (0.41 psi)
E216	Ammonia Tank
E217	Sulfuric Acid Tank
E218	Parts Washer
E213	Fire Pump Diesel Tank
E214	Diesel Tank (0.01 psi)
E203	Cook Water Tank (0.2 psi)
E212	Methanator Tank (0.2 psi)
E202	Syrup Tank (0.1 psi)

II. Plant-Wide Conditions

Facility Name: Flint Hills Resources Arthur, LLC
Permit Number: 10-TV-008R1-M001

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: 10/26/15
Ending on: 10/25/2020

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

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

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

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

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

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be

handled, transported or stored or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved roads. Ordinary travel includes routine traffic and road maintenance activities such as scarifying, compacting, transporting road maintenance surfacing material, and scraping of the unpaved public road surface. (the preceding sentence is State Only) All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The public highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not be limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.

3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.

5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

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

III. Emission Point-Specific Conditions

Facility Name: Flint Hills Resources Arthur, LLC
Permit Number: 10-TV-008R1-M001

Emission Point ID Number: EP-S10

Associated Equipment

Emission Unit ID	Emission Unit Description	Maximum Rated Capacity	Control Equipment
EU 01	DDGS Dryer A	54.4 MMBtu/hr	Thermal Oxidizer 1 (CE C10a)
EU 02	DDGS Dryer B	54.4 MMBtu/hr	
EU 03	DDGS Dryer C	54.4 MMBtu/hr	Thermal Oxidizer 2 (CE C10b)
EU 04	DDGS Dryer D	54.4 MMBtu/hr	
EU 110	Evaporated Stillage Process Tank	100,000 gal	Thermal Oxidizer 1 or 2 (CE C10a or CE C10b)
EU 132	Heat Recovery Boiler A	147.4 MMBtu/hr	None. Units recover heat from the TOs, located post-control.
EU 133	Heat Recovery Boiler B	147.4 MMBtu/hr	
Distillation Process			
EU 05	Process Distillation Vents	1600 ft^3/min	Thermal Oxidizer 1 (CE C10a) or Thermal Oxidizer 2 (CE C10b)
EU 06	Mixer	22,285 Bu/hr	
EU 07	Slurry Tank A	25,000 gal	
EU 08	Slurry Tank B	29,000 gal	
EU 09	Cook Tube #1	5630 gal	
EU 09b	Cook Tube #2	5630 gal	
EU 10	Cook Flash Vessel	4500 gal	
EU 11	Receiver Tank	317 gal	
EU 12	Liquefaction Tank #1	128,400 gal	
EU 13	Liquefaction Tank #2	128,400 gal	
EU 14	Yeast Tank #1	20,000 gal	
EU 15	Yeast Tank #2	20,000 gal	
EU 16	Beer Column	3000 gal/min	
EU 17	Side Stripper	982 gal/min	
EU 18	Rectifier Column	700 gal/min	
EU 19	190 Proof Condenser	1967 gal/min	
EU E47 to E52, E106, E107, E109	Molecular Sieve Bottles #1 - #9	785 gal/min (each)	
EU 26	200 Proof Flash Receiver	637 gal/min	
EU 27 through 32	Centrifuges (#1 - #6)	500 gal/min (each)	
EU 33 through 40	Evaporators (#1 - #8)	1600 gal/min (each)	
EU 20	Molecular Sieve Vaporizer	785 gal/min	
EU 21	200 Proof Flash Tank	1,240 gal	

EU 22	Centrate Tank #1	1,690 gal	
EU 23	Centrate Tank #2	1,690 gal	
EU 24	Reflux Tank	1,240 gal	
EU 25	Regen Tank	1,240 gal	
EU 41	CIP Screen/Tank	25,000 gal	
EU 42	Acid Wash Tank	14,200 gal	
EU-68 through EU-71	[(1)]Methanators #1-#4	250 gallons per minute (Total System Capacity)	Biomethanator Flare (CE-C60) or Dryer A (EU-01) and Thermal Oxidizer 1 (CE-C10a)

[(1)] These units may be vented to Dryer A and their combustible gases burned before the exhaust is emitted through Thermal Oxidizer 1 (CE-C10a) and out the stack (EP-S10). If these units are not vented through Dryer A, they shall be vented to the Biomethanator Flare (CE-C60).

Continuous Emissions Monitors ID Numbers: ME10

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-068-S10
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 10.0 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Particulate Matter – State (PM)[(3)]
Emission Limit(s): 10.0 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-068-S10
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_x)
Emission Limit(s): 22.80 lb/hr; 500 ppmv
Authority for Requirement: DNR Construction Permit 07-A-068-S10
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 27.50 lb/hr[(4)]; 96.6 ton/yr; 0.1 lb/MMBtu[(5)]
Authority for Requirement: DNR Construction Permit 07-A-068-S10
567 IAC 23.1(2)"ccc"
40 CFR Part 60 Subpart Db

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 7.50 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 27.50 lb/hr[(2)(7)]; 96.6 ton/yr[(6)(7)]
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Acetaldehyde
Emission Limit(s): 0.50 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Acrolein
Emission Limit(s): 0.23 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Formaldehyde
Emission Limit(s): 0.23 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Methanol
Emission Limit(s): 0.23 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

Pollutant: Total HAP
Emission Limit(s): 1.06 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-068-S10

[(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).
[(2)] The emission limit is based on a six (6) minute average
[(3)] The emission limit is expressed as the average of three (3) runs
[(4)] Emission limit is based on a 30-day rolling average basis.
[(5)] 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).
(6) The emission limit is based on a twelve (12) month rolling total.
(7) The emission limit was established to maintain synthetic minor status for Prevention of Significant Deterioration (PSD) purposes.

<u>Operating Limits and Associated Monitoring and Recordkeeping</u>

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The dryers and thermal oxidizers shall combust only natural gas and/or process off-gases.

B. The thermal oxidizers 1 (CE-C10a) and 2 (CE-C10b) shall be operated at all times that process streams are vented to them and each shall maintain an operating temperature (measured as a 3-hour average) of no less than 50 degrees Fahrenheit below the average operating temperature of the oxidizer recorded during the most recent performance test that demonstrated compliance with the emission limits.

   i. The owner or operator shall collect and record the combustion chamber temperature of each thermal oxidizer, in degrees Fahrenheit on a continuous basis.

   ii. The owner or operator shall calculate and record the 3-hour block average of the combustion changer temperature in degrees Fahrenheit. If the 3-hour average combustion chamber of each thermal oxidizer falls below the value specified in Permit Condition 5.B., the owner or operator shall investigate and make any necessary corrections.

C. The owner or operator shall comply with the applicable standards in 40 CFR Part 60, Subpart Db [§60.40b - §60.49b], including those not specifically mentioned in this permit.

   i. The owner or operator shall maintain records of the following information for each steam generating unit operating day. This information shall be submitted in a report, as required in 40 CFR §60.49b(i).

      1. Calendar date;

      2. The average hourly NO_x emission (as NO_2) rates measured;

      3. The 30-day average NO_x 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 NO_x emission rates are in excess of the NO_x emission standard in §60.44b, with the reasons 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 the "F" factor used for calculations, method of determination, and type of fuel combusted;

8. Identification of the times when the pollutant concentration exceeds full span of the CEMS;

9. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

10. Results of daily CEMS drift tests and quarterly accuracy assessments as required in 40 CFR Appendix F, Procedure 1.

D. The owner or operator shall inspect and maintain each thermal oxidizer according to the facility's (Plant No. 47-04-001) operation and maintenance plan.

i. The owner or operator shall keep a log of all maintenance and inspection activities performed on each thermal oxidizer. This log shall include, but shall not limited to:

1. The date that 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;

4. Any actions taken to correct operating temperature malfunctions; and

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

NSPS and NESHAP Applicability

The thermal oxidizer systems are subject to New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60 Subpart Db; 567 IAC 23.1(2)"ccc"). The thermal oxidizers are also subject to NSPS General Provisions (40 CFR Part 60 Subpart A; 23.1(2)).

Authority for Requirement: DNR Construction Permit 07-A-068-S10

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 125
Stack Opening, (inches, dia.): 121.5
Exhaust Flow Rate (scfm): 153,400
Exhaust Temperature (°F): 360
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-068-S10

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

Monitoring Requirements

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

Stack Testing:

Pollutant – Acetaldehyde
Frequency – Annually
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-068-S10

Pollutant – Acrolein
Frequency – Annually
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-068-S10

Pollutant – Formaldehyde
Frequency – Annually
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-068-S10

Pollutant – Methanol
Frequency – Annually
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-068-S10

Pollutant – Total HAP
Frequency – Annually
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-068-S10

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. Upon written request, the department may allow a notification period of less than 30 days. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7).

Continuous Emissions Monitoring:

A. 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 60.49b(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 Permit Condition 6.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. Whenever excessive inaccuracies occur for two consecutive quarters, the owner or operator shall revise the current written procedures or shall modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

   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 Permit Condition 8 – *Notification, Reporting, and Recordkeeping*).

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 90th 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 95th 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-068-S10

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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S10 – Thermal Oxidizer

I. Background

A. Emissions Unit

Description:	DDGS Dryers A-D (EU01-EU-04)
	Distillation Equipment (EU05-EU42; EU47-EU52; EU 106-EU108)
	Evaporated Stillage Tank (EU110)
	Methanators (EU68-71)
	Heat Recovery Boilers A&B (EU132-EU133)
Facility:	Flint Hills Resources Arthur, LLC
	Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit #07-A-068-S10
PM emission limit or standard:	10.0 lbs/hr PM; 0.1 gr/dscf PM
PM_{10} emission limit or standard:	10.0 lbs/hr PM_{10}
VOC emission limit or standard:	7.50 lbs/hr VOC
HAP emission limit or standard:	0.23 lb/hr Single HAP, 0.50 lb/hr Acetaldehyde, 1.06 lb/hr Total HAP
Current Monitoring requirements:	Maintain hourly records of combustion chamber temperature

C. Control Technology: Thermal Oxidizers (CE C10a, CE C10b)

II. Thermal Oxidizer (CE C10a, CE C10b) Monitoring Approach

A. Indicator

Combustion chamber temperature and internal inspections will be used as indicators.

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

	Indicator No. 1	Indicator No. 2
I. Indicator	Combustion Chamber Temperature	Work Practice/Inspection
Measurement Approach	The temperature measured in the combustion chamber by the continuous temperature monitor (thermocouple).	Inspection and maintenance of the burner to ensure structural integrity and ensure proper operation.
II. Indicator Range	An excursion from an indicator range is defined as 3-hour rolling average temperature reading 50° F less than the average temperature in the most recent compliance performance test.	An excursion from an indicator range is defined as failure to perform inspection during planned maintenance turnaround[1] or any finding that the structural integrity of the incinerator has been jeopardized and it no longer operates as designed.
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.	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 below the indicator range exceeding 5 percent of operating time for a reporting period excluding periods of startup, shutdown and malfunction.	Not Applicable
III. Performance Criteria		
A. Data Representativeness	The sensor is located in the incinerator	Not Applicable

	Indicator No. 1	Indicator No. 2
	combustion chamber as an integral part of the incinerator design. The minimum or maximum tolerance of the thermocouple is ±4 degrees F.	
B. Verification of Operational Status	Temperatures recorded electronically.	Inspection Records
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation	Not Applicable
D. Monitoring Frequency	The combustion temperature is measured continuously.	Internal inspection of the burner during planned maintenance turnarounds[1]
Data Collection	Record chamber temperature continuously on electronic media.	Record results of inspections.
Averaging Period	Three (3) hour rolling average.	Not Applicable.
E. Record Keeping	Maintain for a period of five years records of electronic media and corrective actions taken in response to excursions.	Maintain for a period of five years records of inspections and corrective actions taken in response to findings.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken.	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually	Semiannually

Note: [1] Planned maintenance turnarounds are scheduled every 12-24 months

III. Justification

A. Background

PM, PM_{10}, VOC, and HAP emissions from Distillation Equipment (EU05-EU42; EU47-EU52; EU 106-EU108), Evaporated Stillage Tank (EU110), and Dryers A-D (EU01-EU-04) are controlled by the Thermal Oxidizers.

B. Rationale for Selection of Performance Indicator

The control efficiency achieved by a thermal oxidizer is a function of the combustion chamber temperature. It is expected that by maintaining the operating temperature at or above the minimum chamber temperature, the required level of PM, PM_{10}, VOC, and HAP control efficiency can be expected to be achieved.

The work practice of an inspection of the incinerator burner was selected because an inspection verifies equipment integrity will maintain proper burner operation and efficiency.

C. Rationale for Selection of Indicator Level

The thermal oxidizer shall maintain a minimum operating temperature within minus 50 degrees F of the average temperature recorded during the most recent performance testing that demonstrated compliance with permit limits.

Emission Point ID Number: EP-S20

Associated Equipment

Emission Unit Name	Emission Unit ID	Maximum Capacity
Rail Receiving and Truck Receiving #1	EU-43	20,000 bushels per hour
Truck Receiving #2	EU-44	20,000 bushels per hour
Storage Conveyor	EU-45	7,500 bushels per hour
Grain Elevator #1	EU-46	20,000 bushels per hour
Grain Silo #1	EU-47	1.0 million bushels (combined total)
Grain Silo #2	EU-48	
Emptying Conveyor	EU-49	8,000 bushels per hour
Grain Elevator #2	EU-50	7,500 bushels per hour
Grain Day Bin #1	EU-51	27,000 bushels per hour
Grain Day Bin #2	EU-52	9,000 bushels per hour

Emissions Control Equipment ID Number: CE-C20
Emissions Control Equipment Description: Baghouse

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) (3)]
Authority for Requirement: DNR Construction Permit 07-A-069-S4
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.67 lb/hr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-069-S4

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 1.67 lb/hr[(2)]; 0.1 gr/dscf[(2)]
Authority for Requirement: DNR Construction Permit 07-A-069-S4
567 IAC 23.4(7)

[(1)] An exceedance of the indicator opacity of "10%" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).
[(2)] The emission limit is expressed as the average of three (3) runs.
[(3)] The emission limit is based on a six (6) minute average.

<u>Operational Limits & Requirements</u>

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

Operating Limits

Operating limits for this emission unit shall be:

A. The amount of grain received by this facility (Plant No. 47-04-001) shall not exceed 48,214,286 bushels per twelve month rolling period.

B. The owner or operator shall inspect and maintain the baghouse (CE-C20) in accordance to the facility's (Plant No. 47-04-001) operation and maintenance plan.

Reporting and Recordkeeping

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

A. By the end of the following month, the owner or operator shall record the amount of grain, in bushels, received by the facility over the previous month.

B. By the end of the following month, the owner or operator shall record the amount of grain, in bushels, received the facility over the previous twelve (12) months.

C. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:
   a. The date and time any inspection and/or maintenance was performed on the control equipment;
   b. Any issues identified during the inspection;
   c. Any issues addressed during the maintenance activities; and
   d. Identification of the staff member performing the maintenance or inspection.

NSPS and NESHAP Applicability

- The emission units associated with EP-S20 are of the source category, but not subject to Title 40 of the Code of Federal Regulation (CFR) Part 60, Subpart DD – *Standards of Performance for Grain Elevators*, because they were constructed before the permanent storage capacity for this facility (Plant No. 47-04-001) exceeded 2.5 million bushels.

- However, if any of the emission units associated with EP-S20 is modified or reconstructed and this modification or reconstruction does not meet the modification exemption in 40 CFR §60.304(b), the emission unit becomes subject to NSPS Subpart DD.

Authority for Requirement: DNR Construction Permit 07-A-069-S4

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 166
Stack Opening, (inches, dia.): 44
Exhaust Flow Rate (scfm): 34,320
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-069-S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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.

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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S20 – Grain Receiving, Storage, and Handling System Baghouse

I. Background

A. Emissions Unit
Description: Grain Receiving, Storage, and Handling System (EU43-EU52)
Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements
Regulation No.: Construction Permit #07-A-069-S4
PM emission limit or standard: 1.67 lbs/hr PM; 0.1 gr/dscf PM
PM_{10} emission limit or standard: 1.67 lbs/hr PM_{10}

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

	Indicator No. 1
I. 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	A pressure drop of 0.1 to 4 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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside of the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
A. Data Representativeness	Pressure drop is measured across the system.

	Indicator No. 1
B. Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation
D. Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection	The pressure drop will be recorded electronically or manually.
Averaging Period	Not applicable.
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually

III. Justification

A. Background

PM and PM_{10} emissions from the Grain Receiving, Storage, and Handling System (EU43-EU52) 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 and PM_{10}. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.1 to 4 inches of water is recommended to achieve the required control efficient.

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

Emission Unit ID Numbers:
Hammermill Feed Conveyor, EU 53 (10,000 bushels/hr)
Hammermills #1 - #4, EU 54 – EU 57 (3,570 bushels/hr)
Emissions Control Equipment ID Number: CE-C30
Emissions Control Equipment Description: Baghouse

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)(3)]
Authority for Requirement: DNR Construction Permit 07-A-070-S4
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 1.20 lb/hr[(2)(4)]; 0.1 gr/dscf[(2)]
Authority for Requirement: DNR Construction Permit 07-A-070-S4
567 IAC 23.4(7)

[(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).
[(2)] The emission limit is expressed as the average of three (3) runs.
[(3)] The emission limit is based on six (6) minute average.
[(4)] The emission limit was established to maintain synthetic minor status for Prevention of Significant Deterioration (PSD) purposes.

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

Operating Limits

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

   i. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:

1. The date and time 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.

Authority for Requirement: DNR Construction Permit 07-A-070-S4

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 163.3
Stack Opening, (inches, dia.): 36
Exhaust Flow Rate (scfm): 18,402
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-070-S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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.

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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S30 – Hammermill Baghouse

I. Background

A. Emissions Unit
Description: Hammermilling Process (EU53-EU57)
Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements
Regulation No.: Construction Permit #07-A-070-S4
PM emission limit or standard: 1.20 lbs/hr PM; 0.1 gr/dscf PM

C. Control Technology: Fabric Filter 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 1. Monitoring Approach

	Indicator No. 1
I. 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	A pressure drop of 0.1 to 4 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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions outside of the indicator range of six or more for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria	
A. Data Representativeness	Pressure drop is measured across the system.

	Indicator No. 1
B. Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation
D. Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection	The pressure drop will be recorded electronically or manually.
Averaging Period	Not applicable.
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken.
Frequency	Semiannually

III. Justification

A. Background

PM and PM_{10} emissions from the Hammermill Process (EU53-EU57) 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 and PM_{10}. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.1 to 4 inches of water is recommended to achieve the required control efficient.

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-S31

Associated Equipment

Emission Unit ID Numbers:
Hammer Mill Feed Conveyor, EU 78 (3,000 bushels/hr)
Hammer Mills #5, EU 79 (2,000 bushels/hr)
Hammer Mill Drag Conveyor (EU 82) (3,000 bushels/hr)

Emissions Control Equipment ID Number: CE-C31
Emissions Control Equipment Description: Baghouse

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 16-A-115
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.3 lb/hr[(3)]; 0.1 gr/dscf[(3)]
Authority for Requirement: DNR Construction Permit 16-A-115
567 IAC 23.4(7)

[(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).
[(2)] The emission limit is based on a six (6) minute average
[(3)] The emission limit is expressed as the average of three (3) runs.

Operational Limits, Requirements and Associated Recordkeeping
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Operating Limits

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

i. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:

1. Daily pressure drop observations
2. The date and time any inspection and/or maintenance was performed on the control equipment;
3. Any issues identified during the inspection;
4. Any issues addressed during the maintenance activities; and
5. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 16-A-115

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 15
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7,000
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical, obstructed
Authority for Requirement: DNR Construction Permit 16-A-115

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

Monitoring Requirements

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

Stack Testing[1]:

Pollutant – PM- State
Frequency – One Time, Initial
Test Method –
40 CFR 60, Appendix A, Method 5,
40 CFR 51 Appendix M Method 202, or other approved method

Pollutant – Opacity
Frequency – One Time, Initial
Test Method –
40 CFR 60, Appendix A Method 9

[1] *The owner or operator shall either conduct representative initial stack testing on one of the following emission points: EP-S31 or EP-S32 or conduct initial stack testing on both emission points. If the owner or operator decides to conduct representative initial stack testing, then the initial stack test results from that test shall be considered representative for the other emission point.*

The owner or the owner's authorized agent shall verify compliance with the PM and opacity limits. This test shall be conducted within sixty (60) days after achieving the maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

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 are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.
Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-S32

Associated Equipment

Emission Unit ID Numbers:
Hammer Mill Feed Conveyor, EU 78 (3,000 bushels/hr)
Hammer Mills #6, EU 81 (2,000 bushels/hr)
Hammer Mill Drag Conveyor (EU 82) (3,000 bushels/hr)
Emissions Control Equipment ID Number: CE-C32
Emissions Control Equipment Description: Baghouse

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 16-A-116
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.3 lb/hr[(3)]; 0.1[(3)] gr/dscf
Authority for Requirement: DNR Construction Permit 16-A-116
567 IAC 23.4(7)

[(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).
[(2)] The emission limit is based on a six (6) minute average
[(3)] The emission limit is expressed as the average of three (3) runs.

Operational Limits, Requirements and Associated Recordkeeping
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Operating Limits

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

i. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:

1. Daily pressure drop observations
2. The date and time any inspection and/or maintenance was performed on the control equipment;
3. Any issues identified during the inspection;
4. Any issues addressed during the maintenance activities; and
5. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 16-A-115

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 15
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 7,000
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical, obstructed
Authority for Requirement: DNR Construction Permit 16-A-116

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

Monitoring Requirements

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

Stack Testing[1]:

Pollutant – PM- State
Frequency – One Time, Initial
Test Method –
40 CFR 60, Appendix A, Method 5,
40 CFR 51 Appendix M Method 202, or other approved method

Pollutant – Opacity
Frequency – One Time, Initial
Test Method –
40 CFR 60, Appendix A Method 9

[1] *The owner or operator shall either conduct representative initial stack testing on one of the following emission points: EP-S31 or EP-S32 or conduct initial stack testing on both emission points. If the owner or operator decides to conduct representative initial stack testing, then the initial stack test results from that test shall be considered representative for the other emission point.*

The owner or the owner's authorized agent shall verify compliance with the PM and opacity limits. This test shall be conducted within sixty (60) days after achieving the maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

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 are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Authority for Requirement: 567 IAC 22.108(3)

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-S40

Associated Equipment

Emission Unit ID	Emission Unit Description	Maximum Rated Capacity
EU 58	Fermenter #1	807,000 gallons
EU 59	Fermenter #2	807,000 gallons
EU 60	Fermenter #3	807,000 gallons
EU 61	Fermenter #4	807,000 gallons
EU 62	Fermenter #5	807,000 gallons
EU 63	Fermenter #6	807,000 gallons
EU 64	Fermenter #7	807,000 gallons
EU 106	Fermenter #8	807,000 gallons
EU 107	Fermenter #9	807,000 gallons
EU 65	Beer Well	1,080,000 gallons

Emissions Control Equipment ID Number: CE-C40
Emissions Control Equipment Description: CO_2 Scrubber

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-071-S8
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.14[(3)(4)] lb/hr
Authority for Requirement: DNR Construction Permit 07-A-071-S8

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.14 lb/hr[(3)(4)]; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-071-S8
567 IAC 23.4(7)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 20.0 lb/hr[(3)(4)]
Authority for Requirement: DNR Construction Permit 07-A-071-S8

Pollutant: Acetaldehyde
Emission Limit(s): 0.99 lb/hr[(3)(5)]
Authority for Requirement: DNR Construction Permit 07-A-071-S8

Pollutant: Single HAP
Emission Limit(s): 0.06 lb/hr[(3)(5)]
Authority for Requirement: DNR Construction Permit 07-A-071-S8

Pollutant: Total HAP
Emission Limit(s): 1.12 lb/hr[(3)(5)]
Authority for Requirement: DNR Construction Permit 07-A-071-S8

[(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).
[(2)] The emission limit is a six (6) minute average.
(3) The emission limit is expressed as the average of three (3) runs.
(4) Emission limits were established to limit facility's PTE in order to stay minor for PSD.
(5) Emission limits were established to limit facility's PTE in order to stay as an area source for NESHAP.

Operating Limits and Associated Monitoring and Recordkeeping

The owner/operator of this equipment shall comply with the operational limits and requirements listed below. The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The owner or operator shall operate and maintain equipment to continuously monitor the production rate (in gpm). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

B. The control equipment shall be operated at all times any of the equipment controlled by the device is in operation. The control equipment shall be limited to using ammonium bisulfite (ABS), sodium bisulfite (SBS), VOXout or any other approved additive.

C. Use of any new additive requires the owner or operator to first request a variance to test the additive. Performance test results will need to be submitted to DNR for review. Provided DNR accepts the test results, the owner or operator will then be allowed to use the new additive.

D. If the owner or operator wants to operate the CO_2 scrubber at a lower liquid circulation rate and additive feed rate as allowed in Permit Condition 5.E(i), the owner or operator will need to request a variance to conduct testing. Performance test results will then need to be submitted to DNR for review and approval.

E. When using ammonium bisulfite (ABS), sodium bisulfite (SBS), VOXout or any other approved additive:

   a. The CO_2 scrubber shall have a minimum liquid (water) flow rate which is calculated

as 90 percent of the average liquid flow rate observed during the most recent performance test that demonstrated compliance with all applicable emission limits.

b. The CO_2 scrubber shall maintain an average differential pressure drop across the scrubber between 2 and 9 inches water column on a 24-hour 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 of less than 2 inches water column or a pressure drop across the wet scrubber of greater than 9 inches water column.

   i. When the Fermentation Process is running at 1000 gallons per minute or less, the average differential pressure drop across the scrubber shall be maintained between 1 and 9 inches water column on a 24-hour averaging period.

c. The additive feed rate (in milliliters per minute) shall be maintained at or above the average rate observed during the most recent performance test that demonstrated compliance with all applicable emission limits.

F. The owner or operator shall operate and maintain equipment to continuously monitor:

a. The liquid circulation rate for the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

b. The differential pressure drop for the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer’s recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

c. The type of additive used and the additive feed rate to the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer’s recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

G. The owner or operator shall record:

a. The scrubber liquid (water) flow rate on a continuous basis. If the rate deviates below the minimum flow rate required (i.e., 90% of the flow rate during a previous performance test that demonstrated compliance), then record the time, date and actions taken to correct the situation and when the flow rate is back above the minimum flow rate required. All excess emission reporting shall be conducted in accordance with Permit Conditions 11 and 12.

b. The scrubber pressure drop on a continuous basis. On those days when there is an alarm for the pressure drop reaching less than 2 inches water column or greater than

9 inches water column, calculate and record the average pressure drop across the scrubber based on a 24-hour average. This requirement shall not apply on the days that the scrubber is not in operation. If the pressure drop deviates outside the range required, then record the time, date and actions taken to correct the situation and when the pressure drop is back in the average pressure drop range required.

i. When the Fermentation Process is running at 1000 gallons per minute or less, calculate and record the average pressure drop across the scrubber based on a 24-hour average when the pressure drop reaches less than 1 inches water column or greater than 9 inches water column. If the pressure drop deviates outside the range required, then record the time, date and actions taken to correct the situation and when the pressure drop is back in the average pressure drop range required.

c. The rate of additive added (additive feed rate) to the scrubber liquid on a continuous basis. If the additive feed rate deviates below the rate required (i.e. additive feed rate during a previous performance test that demonstrated compliance), then record the time, date and actions taken to correct the situation and also when the additive feed rate is back above the minimum required feed rate. All excess emission reporting shall be conducted in accordance with Permit Conditions 11 and 12.

H. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

a. The owner or operator shall maintain a record of all inspections, maintenance and any action resulting from the inspection or maintenance of the control equipment and the monitoring devices

I. Excess emissions from start-up or malfunction (i.e. pressure release valves, upset conditions, etc) shall be recorded and counted towards the permit emission limits.

J. Maintain onsite a copy of the previous performance tests for each scrubber operating scenario detailing scrubber pressure drop, scrubber liquid flow rate, and additive feed rate measured during each performance test, which demonstrated compliance with Permit Condition 1.

Authority for Requirement: DNR Construction Permit 07-A-071-S8

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

Stack Height, (ft, from the ground): 80.2
Stack Opening, (inches, dia.): 28
Exhaust Flow Rate (scfm): 14,930
Exhaust Temperature (°F): 100
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-071-S8

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

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

Pollutant – VOC
Frequency - Annually[(1)]
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-071-S8

Pollutant – Acetaldehyde
Frequency – Annually [(1)]
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-071-S8

Pollutant – Single HAP
Frequency - Annually [(1)]
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-071-S8
Pollutant – Total HAP
Frequency - Annually [(1)]
Test Method –
40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Authority for Requirement - DNR Construction Permit 07-A-071-S8

[(1)] Annual testing shall be performed during the months of June, July, or August.

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. Upon written request, the department may allow a notification period of less than 30 days. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

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

EP-S40 – CO_2 Scrubber

I. Background

A. Emissions Unit

Description: Fermentation Process
Fermenters #1-9 (EU58-EU64; EU106-EU107)
Beerwell (EU65)

Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit #07-A-071-S8
VOC emission limit or standard:	20.0 lb/hr VOC
HAP emission limit or standard:	0.06 lb/hr Single HAP, 0.99 lb/hr Acetaldehyde, 1.12 lb/hr Total HAP
Current Monitoring Requirements:	Record: the amount of additive(s) used on a continuous basis; the scrubber liquid (water) flow rate on a continuous basis; and scrubber pressure drop on a continuous basis.

C. Control Technology: CO_2 Scrubber (CE C40)

II. CO_2 Scrubber (CE C40) Monitoring Approach

A. Indicators

Water flow rate, additive flow rate, and pressure drop of the scrubber will be used as indicators.

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

	Indicator No. 1	Indicator No. 2
I. Indicator	Water flow rate	Additive flow rate
Measurement Approach	The water flow rate will be measured using a flow meter.	The additive flow rate will be measured using a flow meter.
II. Indicator Range	An excursion is defined as a 3-hour average scrubber water flow rate recording of less than 90% of the	An excursion is defined as a 3-hour average scrubber additive flow rate recording of less than the amount recorded

	Indicator No. 1	Indicator No. 2
	average amount recorded during the most recent stack test.	during the most recent stack test.
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 of adjustment will be implemented to procedures to address the excursion.	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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions below the indicator range exceeding 5 percent of operating time for a reporting period excluding periods of startup, shutdown and malfunction	An accumulation of excursions below the indicator range exceeding 5 percent of operating time for a reporting period excluding periods of startup, shutdown and malfunction.
III. Performance Criteria		
A. Data Representativeness	The water flow rate meter measures the inlet water flow rate of the scrubber. Water flow rates less than that recorded during the most recent stack test indicate a potential decrease in VOC and HAP removal efficient of the scrubber.	The additive flow rate meter measures the inlet additive flow rate to the scrubber. Additive flow rates less than that recorded during the most recent stack test indicate a potential decrease in VOC and HAP removal efficient of the scrubber.
B. Verification of Operational Status	The water flow rate meter was installed, calibrated, and is operated in accordance with manufacturer's recommendations	The additive flow rate mater was installed, calibrated, and is operated in accordance with manufacturer's recommendations.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in	Calibrate, maintain, and operate instrumentation in

	Indicator No. 1	Indicator No. 2
	accordance with manufacturer's recommendation	accordance with manufacturer's recommendation
D. Monitoring Frequency	The scrubber water flow rate will be measured continuously using a data acquisition system.	The scrubber additive flow rate will be measured continuously using a data acquisition system.
Data Collection	The scrubber water flow rate will be recorded on a continuous basis.	The scrubber additive flow rate will be recorded on a continuous basis.
Averaging Period	A 3-hour rolling average will be calculated and recorded during process operation.	A 3-hour rolling average will be calculated and recorded during process operation.
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Maintain for a period of five years records of corrective actions taken in response to excursions.	Maintain for a period of five years records of corrective actions taken in response to excursions.
Frequency	Semiannually	Semiannually

III. Justification

A. Background

VOC and HAP emissions from the Fermenters (EU58-EU64; EU106-EU107) and Beerwell (EU65) are controlled using a CO_2 wet scrubber with a single pass water flow. The exhaust from the scrubber is routed to atmosphere.

B. Rationale for Selection of Performance Indicator

To comply with the applicable emission limits, a minimum water and additive flow rate must be supplied to the scrubber to absorb a given amount of VOC and HAP in the gas stream. The liquid circulation rate is a key operating parameter of the scrubber. If the liquid circulation rate decreases below the minimum, sufficient mass transfer of the pollutant from the gas phase to the liquid phase may not occur. Results from stack testing are used as a minimum liquid flow required to maintain the proper liquid circulation rate. Maintaining this minimum liquid flow, even during period of reduced air flow, will help to ensure that the ideal liquid circulation rate is achieved at all times.

C. Rationale for Selection of Indicator Level

The minimum water and additive flow rates levels were determined based on stack test results that showed compliance with the current emission limits. The water flow rates to the scrubber must be maintained at 90 percent of this level or higher to meet permitted emission limits. The additive flow rates to the scrubber must be maintained at this level or higher to meet permitted emission limits.

Emission Point ID Number: EP-S50

Associated Equipment

Emission Unit vented through this Emission Point: EU-66
Emission Unit Description: Product Loadout
Raw Material/Fuel: Ethanol
Rated Capacity: 2,000 gallons/min Truck Loadout, 2,000 gallons/min Rail Loadout
Emissions Control Equipment ID Number: CE-C50
Emissions Control Equipment Description: Loadout Flare (12.4 MMBtu/hr)

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): The flare (CE-C50) shall operate with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.50 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.50 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-072-S4
567 IAC 23.4(7)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 2.07 ton/yr
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 22.90 ton/yr[(1)]
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 9.30 ton/yr
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Single HAP
Emission Limit(s): 9.4 ton/yr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-072-S4

Pollutant: Total HAP
Emission Limit(s): 24.4 ton/yr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-072-S4

[(1)] VOC emissions are from the combustion of the flare and pilot and the product loading losses.
[(2)] Plant-wide limit on HAPs to keep the facility a synthetic minor for any applicable NESHAP

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. The amount of product (denatured ethanol and undenatured ethanol) loaded into trucks and railcars shall not exceed 135,000,000 gallons per twelve-month rolling period.

B. The flare (CE-C50) shall be limited to operating 4,818 hours per twelve-month rolling period. (NOTE: The pilot light is allowed to operate 8,760 hours per year).

C. The flare (CE-C50) shall be used whenever product is loaded through the rail or truck loadout.

D. The flare (CE-C50) shall:
   a. 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;
   b. Be operated with a flame present at all times product is being loaded; and
   c. Be designed to ensure smokeless operation.

E. The owner or operator shall inspect and maintain the flare (CE-C50) according to the facility's (Plant No. 47-04-001) operation and maintenance plan.

Reporting and Recordkeeping

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

A. By the end of the following month, the owner or operator shall record the amount of product (denatured ethanol and undenatured ethanol) loaded into trucks and railcars over the previous month.

B. By the end of the following month, the owner or operator shall record the amount of product (denatured ethanol and undenatured ethanol) loaded into trucks and railcars over the previous twelve (12) months.

C. By the end of the following month, the owner or operator shall record the number of hours that the flare (CE-C50) operated over the previous month.

D. By the end of the following month, the owner or operator shall record the number of hours that the flare (CE-C50) operated over the previous twelve (12) months.

E. 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.

F. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:
   a. The date and time any inspection and/or maintenance was performed on the control equipment;
   b. Any issues identified during the inspection;
   c. Any issues addressed during the maintenance activities; and
   d. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 07-A-072-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): 300
Exhaust Temperature (°F): 1800
Discharge Style: Unobstructed Vertical
Authority for Requirement: DNR Construction Permit 07-A-072-S4

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-S60

Associated Equipment

Emission Unit Name	Emission Unit ID	Maximum Capacity	Control Equipment
Methanator #1*	EU-68	250 gallons per minute (Total System Capacity)	Biomethanator Flare 6.4 MMBtu/hr (CE-C60) or Thermal Oxidizer 1 (CE-C10a)
Methanator #2*	EU-69		
Methanator #3*	EU-70		
Methanator #4*	EU-71		

* These units may be vented to Dryer A (EU-01) and their combustible gases burned before the exhaust is emitted through the thermal oxidizers and out the stack (EP-S10). If these units are not vented through Dryer A, they shall be vented to the Biomethanator Flare (CE-C60).

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): The flare (CE-C60) shall operate with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours.
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.25 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.25 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 1.00 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 7.99 tons/yr(1)
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Carbon Monoxide (CO)

Emission Limit(s): 4.38 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-073-S2
Pollutant: Single HAP
Emission Limit(s): 9.4 tons/yr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-073-S2

Pollutant: Total HAP
Emission Limit(s): 24.4 tons/yr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-073-S2

[(1)] VOC emissions are from the combustion of the flare and pilot and the product loading losses.
[(2)] Plant-wide limit on HAPs to keep the facility synthetic minor for any applicable NESHAP.

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. The flare (CE-C60) shall be limited to operating 4,380 hours per twelve-month rolling period. (NOTE: The pilot light is allowed to operate 8,760 hours per year).

B. The methanators (EU-68 through EU-71) shall be controlled by either the biomethanator flare (CE-C60) or thermal oxidizer 1 (CE-C10a) via Dryer A (EU-01).

C. The flare (CE-C60) shall:
   a. 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;
   b. Be operated with a flame present at all times product is being loaded; and
   c. Be designed to ensure smokeless operation.

D. The owner or operator shall inspect and maintain the flare (CE-C60) according to the facility's (Plant No. 47-04-001) operation and maintenance plan.

Reporting and Recordkeeping

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

A. By the end of the following month, the owner or operator shall record the number of hours that the flare (CE-C60) operated over the previous month.

B. By the end of the following month, the owner or operator shall record the number of hours that the flare (CE-C60) operated over the previous twelve (12) months.

C. 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.

D. The owner or operator shall keep a log of all maintenance and inspection activities performed on the control equipment. This log shall include, but is not limited to:
   a. The date and time any inspection and/or maintenance was performed on the control equipment;
   b. Any issues identified during the inspection;
   c. Any issues addressed during the maintenance activities; and
   d. Identification of the staff member performing the maintenance or inspection.

Authority for Requirement: DNR Construction Permit 07-A-073-S2

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): 1500
Exhaust Temperature (°F): 1800
Discharge Style: Vertical, Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-073-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-S70

Associated Equipment

Emission Unit vented through this Emission Point: EU-S70
Emission Unit Description: DDGS Cooling Drum
Raw Material/Fuel: DDGS
Rated Capacity: 44.4 tons/hr
Emissions Control Equipment ID Number: CE-C70
Emissions Control Equipment Description: Baghouse

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-074-S5
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.3 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-074-S5

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 1.3 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-074-S5
567 IAC 23.4(7)

Pollutant: Acetaldehyde
Emission Limit(s): 0.60 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-074-S5

Pollutant: Single HAP
Emission Limit(s): 0.08 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-074-S5

Pollutant: Total HAP
Emission Limit(s): 0.75 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-074-S5

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

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.
B. Plant-wide, DDGS Production shall not exceed 438,750 tons per rolling twelve (12) month rolling period.

Reporting and Recordkeeping

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

A. The owner or operator shall keep records of control equipment inspection and maintenance.
B. The owner or operator shall calculate the amount of grain received per rolling 12-month period.

Authority for Requirement: DNR Construction Permit 07-A-074-S5

A. The owner or operator shall monthly record the amount of DDGS produced and calculate the rolling 12-month total amount of DDGS produced for each month of operation.

Authority for Requirement: 567 IAC 22.108(4)

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 75
Stack Opening, (inches, dia.): 48
Exhaust Flow Rate (scfm): 20,090
Exhaust Temperature (°F): 120
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-074-S5

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S70 – DDGS Cooling Drum Baghouse

I. Background

A. Emissions Unit
Description: DDGS Cooling Drum (EU-S70)

Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No.:	Construction Permit #07-A-074-S5
PM emission limit or standard:	1.3 lbs/hr PM; 0.1 gr/dscf PM
PM_{10} emission limit or standard:	1.3 lbs/hr PM_{10}
HAP emission limit or standard:	0.08 lb/hr Single HAP, 0.60 lb/hr Acetaldehyde, 0.75 lb/hr Total HAP

C. Control Technology: Fabric Filter (CE-C70)

II. DDGS Cooling Drum Baghouse Monitoring Approach

A. Indicators
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

	Indicator No. 1
I. 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	A pressure drop of 0.1 to 4 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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions below the indicator range of six or more for a reporting period excluding periods of startup, shutdown, and malfunction

	Indicator No. 1
III. Performance Criteria	
A. Data Representativeness	Pressure drop is measured across the system.
B. Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation
D. Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection	The pressure drop will be recorded electronically or manually.
Averaging Period	Not Applicable
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken
Frequency	Semiannually

III. Justification

A. Background

PM and PM_{10} emissions from the DDGS Cooling Drum (EU-S70) are controlled by the DDGS Cooling Drum 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 and PM_{10}. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.1 to 4 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-F80

Associated Equipment
Emission Unit vented through this Emission Point: EU-80
Emission Unit Description: Cooling Tower (4 cells)
Control Equipment: Mist Eliminator (CE-80)
Raw Material/Fuel: cooling water
Rated Capacity: 3,480,000 gal/hr, Drift Loss of 0.005%

Applicable Requirements

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

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 2.00 lb/hr[(1)]
Authority for Requirement: DNR Construction Permit 07-A-075-S3

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 3.63 lb/hr[(2)]
Authority for Requirement: DNR Construction Permit 07-A-075-S3

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 3.63 lb/hr[(1)], 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-075-S3
567 IAC 23.3(2)"a"(1)

[(1)] Emission rate established to limit PTE below dispersion modeling thresholds, per *"Air Dispersion Modeling Guidelines for Non-PSD. Pre-Construction Permit Applications."* dated 12/19/2014.
[(2)] PM and PM_{10} are considered equivalent. The limit is based on drift loss of 0.005% and total dissolved solids (TDS) limit of 2500 ppm.

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

Operating Limits

Operating limits for this emission unit shall be:

A. The total dissolved solids (TDS) in the circulating water for the Cooling Tower (EU-80) shall not exceed 2,500 parts per million (ppm).

B. The Cooling Tower shall be inspected and maintained according to the facility's (Plant No. 47-04-001) operation and maintenance plan.

C. The owner or operator shall not use any additives containing hazardous air pollutants, volatile organic compounds, or chromium in the circulating water for the Cooling Tower (EU-80).

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

A. The owner or operator shall sample the TDS concentration in the circulating water once per calendar month using an industry standard sampling method or procedure.

B. The owner or operator shall maintain monthly records of the TDS concentration in the circulating water for the Cooling Tower (EU-80). In addition to the TDS concentration, these records shall include the dates of each measurement and the method used to obtain each measurement.

C. The owner or operator shall keep records of all maintenance and repairs to the Cooling Tower (EU-80).

D. The owner or operator shall maintain onsite a copy of the Safety Data Sheet (SDS) for each additive used in the circulating water for the Cooling Tower (EU-80).

Authority for Requirement: DNR Construction Permit 07-A-075-S3

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

Stack Height, (ft, from the ground): 44
Stack Opening, (inches, dia.): 336
Exhaust Flow Rate (scfm): 3,120,000 (total)
Exhaust Temperature (°F): 85
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-075-S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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.

Performance Testing:
Pollutant - TDS
Frequency - Monthly
Test Method – TDS Monitoring
Authority for Requirement - DNR Construction Permit 07-A-075-S3

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-S90

Associated Equipment

Emission Unit vented through this Emission Point: EU-74, EU-75, EU-76, EU-77
Emission Unit Description: DDGS Storage Silos (EU-74, EU-75)
DDGS Dump Pit Auger (EU-76)
DDGS Loadout (EU-77)
Raw Material/Fuel: DDGS
Rated Capacity: EU-74 and EU-75 – 4000 tons each
EU-76 – 500 tons/hr
EU-77 – 500 tons/hr
Emissions Control Equipment ID Number: CE-C90
Emissions Control Equipment Description: Baghouse

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-076-S2
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.47 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-076-S2

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.47 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-076-S2
567 IAC 23.4(7)

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

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

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

B. The owner or operator is limited to shipping no more than 438,750 tons of DDGS out of the facility via truck per 12-month rolling period.

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

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

B. For the first twelve (12) months of operation, the owner or operator shall determine the amount of DDGS shipped out via truck for each month of operation. After the first twelve (12) months of operation, the owner or operator shall monthly record the amount of DDGS shipped out via truck and calculate the rolling 12-month total amount of DDGS shipped out via truck for each month of operation.

Authority for Requirement: DNR Construction Permit 07-A-076-S2

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

Stack Height, (ft, from the ground): 26
Stack Opening, (inches, dia.): 22
Exhaust Flow Rate (scfm): 10,700
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 07-A-076-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S90 – DDGS Storage and Loadout Baghouse

I. Background

A. Emissions Unit
Description: DDGS Storage and Loadout (EU-74 – EU-77)
Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements
Regulation No.: Construction Permit #07-A-075-S2
PM emission limit or standard: 0.47 lbs/hr PM; 0.1 gr/dscf PM

C. Control Technology: Fabric Filter Baghouse (CE-C90)

II. DDGS Storage and Loadout Baghouse Monitoring Approach

A. Indicators
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

	Indicator No. 1
I. 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	A pressure drop of 0.1 to 4 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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions below the indicator range of six or more for a reporting period excluding periods of startup, shutdown, and malfunction
III. Performance Criteria	

	Indicator No. 1
A. Data Representativeness	Pressure drop is measured across the system.
B. Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation
D. Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection	The pressure drop will be recorded electronically or manually.
Averaging Period	Not Applicable
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken
Frequency	Semiannually

III. Justification

A. Background

PM emissions from the DDGS Storage and Loadout (EU-S90) are controlled by the DDGS Storage and Loadout 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 0.1 to 4 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-S110

Associated Equipment

Emission Unit vented through this Emission Point: EU-S110
Emission Unit Description: Emergency Fire Pump Engine
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(s): 40%[(1)]
20% (acceleration mode)
15% (lugging mode)
50% (peaks in acceleration or lugging modes
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.3(2)"d"
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.66 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.66 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter – Federal (PM)
Emission Limit(s): 0.54 grams/kW-hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Sulfur Dioxide (SO_x)
Emission Limit(s): 0.62 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 9.30 lb/hr; 10.5 grams/kW-hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 0.09 lb/hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 2.00 lb/hr; 3.5 grams/kW-hr
Authority for Requirement: DNR Construction Permit 07-A-077-S2
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

(1) An exceedance of the indicator opacity of "10%" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. This engine is limited to burning diesel fuel oil that meets the requirements of Condition "E".

B. This engine is limited to operating a maximum of 500 hours in any rolling 12-month period.

C. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4219 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 14. B. is not exceeded. In accordance with §60.4211, the engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.

D. The engine is also allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted toward the 100 hours provided for maintenance and testing. The 50 hours per year for non-emergency operation cannot be used to generate income for the facility to supply power to the grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. This engine is not allowed to operate as a peak shaving unit.

E. 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.

F. In accordance with §60.4209(a), the engine shall be equipped with a non-resettable hour meter.

G. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g).

H. In accordance with §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Reporting and Recordkeeping

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

A. The owner or operator shall maintain the following monthly records:
   i. the number of hours that the engine operated for maintenance checks and readiness testing;
   ii. the number of hours that the engine operated for allowed non-emergency operations;
   iii. the total number of hours that the engine operated in emergency situation; 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 "E" of the operating section 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.

NSPS and NESHAP Applicability

A. This engine is subject to 40 CFR Part 60 NSPS Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (IAC 23.1(2)"yyy").
   i. The engine must comply with the emissions standards from Table 4 of Subpart IIII Part 60 as stated in §60.4205 (c). The emission standards that the engine must comply with are:

Pollutant	**Emission Standard**	**Basis**
Particulate Matter (PM)	0.54 grams/kW-hr	Table 4 Part 60 Subpart IIII
NMHC[1] + NOx	10.5 grams/kW-hr	Table 4 Part 60 Subpart IIII
Carbon Monoxide (CO)	3.5 grams/kW-hr	Table 4 Part 60 Subpart IIII
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

B. This engine is of the source type regulated by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP) [40 CFR Part 63, Subpart ZZZZ). The engine is a new reciprocating internal combustion engine located at an area source of HAP. In accordance with §63.6590 (c)(1), 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: DNR Construction Permit 07-A-077-S2

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

Stack Height, (ft, from the ground): 10
Stack Opening, (inches, dia.): 5.5
Exhaust Flow Rate (scfm): 750
Exhaust Temperature (°F): 770
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 07-A-077-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-FUG6

Associated Equipment

Emission Unit vented through this Emission Point: EU-FUG6
Emission Unit Description: Truck Traffic on Plant Roads (Fugitive Emissions)
Raw Material/Fuel: Truck Traffic
Control Measures: Sweeping/Flushing

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 VE[(1)]
Authority for Requirement: DNR Construction Permit 07-A-079-S2
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter ($PM_{2.5}$)
Emission Limit(s): 0.53 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-079-S2

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 2.15 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-079-S2

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 10.75 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-079-S2

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

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

Operating Limits

Operating limits for this emission unit shall be:

A. Truck traffic on the haul road shall not exceed 10 mph. The speed limit shall be posted on the haul road.

B. Any spills on the road shall be cleaned up immediately.

C. Truck traffic emissions on the paved road shall be controlled by water flushing (except as noted in "iv") and sweeping (see Recordkeeping and Reporting Condition "C") once per day. The water spray rate shall be a minimum of 0.23 gallons per square yard.

(i) If water flushing followed by sweeping cannot be accomplished because the ambient air temperature (as measured at the facility during daylight operating hours) will be less than 35^0 F (1.7^0 C) only sweeping is required. Water flushing and/or sweeping is not required for days of inclement weather.

(ii) Water flushing and sweeping need not occur when a rain gauge located at the site indicates that at least 0.2 inches of precipitation (water equivalent) has occurred within the preceding 24-hr time period or the paved road(s) will not be used on a given day.

(iii) Water flushing and sweeping need not occur if the plant does not receive any truck traffic that day (i.e. on a weekend).

(iv) Daily water flushing need not occur provided that the haul road emissions do not exceed 7.53 tons PM for the last twelve months. This shall be calculated using the formula in Recordkeeping and Reporting Condition "D" of this permit. Provided emissions as calculated in Recordkeeping and Reporting Condition "D remain below 7.53 tons for the last twelve months only daily sweeping is required. In the event that emissions exceed 7.53 tons for the last twelve months the plant shall be required to commence daily water flushing with daily sweeping until PM emissions fall below 7.53 tons for the last twelve months.

D. Silt load performance testing shall be completed monthly. Testing shall be completed prior to water flushing and/or sweeping for that day.

E. The owner/operator shall record the number of trucks that load/unload material on a monthly basis. Based on the number of trucks the total Vehicle Miles Traveled (VMT) shall be calculated for that month.

Reporting and Recordkeeping

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

A. Record the frequency of sweeping performed on the haul roads. If the roads are not swept due to weather, a written record must be kept on site outlining the conditions.

B. Performance testing on the haul road surface silt loading shall be completed on a monthly basis. For each performance test, silt loading sampling shall be done for at least 3 different locations. Performance testing shall be completed prior to water flushing and/or sweeping.

C. The plant shall maintain a log for the haul roads that show the following:

a. The silt content of the road for that month based on testing;
b. The date of performance testing;
c. The vehicle miles traveled (VMT) for that month;
d. Each day record whether or not water flushing and sweeping was accomplished. For days w/o water flushing and/or sweeping record the circumstances (i.e. weather condition, equipment malfunction);
e. The amount of water applied and the areas treated;
f. The operator’s initials.

D. The owner or operator shall calculate and record the monthly haul road emissions according to the following formulas, which uses the equations from AP-42 Section 13.2.1, the empirical constants, and assumes a mean vehicle weight of 27.5 tons.

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

Where E = tons PM per month
sL = road surface silt loading (g/m2) for each performance test
VMT = Vehicle miles traveled

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

Where E = tons PM10 per month
sL = road surface silt loading (g/m2) for each performance test
VMT = Vehicle miles traveled

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

Where E = tons PM2.5 per month
sL = road surface silt loading (g/m2) for each performance test
VMT = Vehicle miles traveled

Authority for Requirement: DNR Construction Permit 07-A-079-S2

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

Stack Height, (ft, from the ground): See Note
Stack Opening, (inches, dia.): See Note
Exhaust Flow Rate (scfm): See Note
Exhaust Temperature (°F): See Note
Discharge Style: See Note
Authority for Requirement: DNR Construction Permit 07-A-079-S2

Note: Emissions from this unit are fugitive emissions generated by vehicle traffic on roadways inside the facility.
The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-T01

Associated Equipment

Emission Unit vented through this Emission Point: EU-T01
Emission Unit Description: Ethanol Process Tank
Raw Material/Fuel: Ethanol
Rated Capacity: 200,000 gallons
Emissions Control Equipment ID Number: CE-T01
Emissions Control Equipment Description: Internal Floating Roof

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

No Applicable limits at this time.

Operating Limits and Associated Monitoring and Recordkeeping
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The owner or operator shall use the Ethanol Process Tank (EU-T01) to store 190 or 200 proof ethanol.
   i. The owner or operator shall maintain on-site a copy of the Safety Data Sheet for each material stored in the Ethanol Process Tank (EU-T01).

B. The 190 proof ethanol throughput shall not exceed 630,720,000 gallons in any 12-month rolling period.
   i. The owner or operator shall record the amount of 190 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T01) on a monthly basis.
   ii. The owner or operator shall calculate and record the amount of 190 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T01) on a rolling 12-month basis.

C. The 200 proof ethanol throughput shall not exceed 630,720,000 gallons in any 12-month rolling period.
   i. The owner or operator shall record the amount of 200 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T01) on a monthly basis.
   ii. The owner or operator shall calculate and record the amount of 200 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T01) on a rolling 12-month basis.

Authority for Requirement: DNR Construction Permit 07-A-080-S2

NSPS and NESHAP Applicability

NSPS Subpart VVa: 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). Subject to the General Provisions of Subpart A.

Authority for Requirement: DNR Construction Permit 07-A-080-S2

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

Stack Height, (ft, from the ground): 33.25
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: Downward

Authority for Requirement: DNR Construction Permit 07-A-080-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-T02

Associated Equipment

Emission Unit vented through this Emission Point: EU-T02
Emission Unit Description: Ethanol Process Tank
Raw Material/Fuel: Ethanol
Rated Capacity: 200,000 gallons
Emissions Control Equipment ID Number: CE-T02
Emissions Control Equipment Description: Internal Floating Roof

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

No Applicable limits at this time.

Operating Limits and Associated Monitoring and Recordkeeping
The owner/operator of this equipment shall comply with the operational limits and requirements listed below. All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

A. The owner or operator shall use the Ethanol Process Tank (EU-T02) to store 190 or 200 proof ethanol.
   i. The owner or operator shall maintain on-site a copy of the Safety Data Sheet for each material stored in the Ethanol Process Tank (EU-T02).

B. The 190 proof ethanol throughput shall not exceed 630,720,000 gallons in any 12-month rolling period.
   i. The owner or operator shall record the amount of 190 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T02) on a monthly basis.
   ii. The owner or operator shall calculate and record the amount of 190 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T02) on a rolling 12-month basis.

C. The 200 proof ethanol throughput shall not exceed 630,720,000 gallons in any 12-month rolling period.
   i. The owner or operator shall record the amount of 200 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T02) on a monthly basis.
   ii. The owner or operator shall calculate and record the amount of 200 proof ethanol, in gallons, stored in the Ethanol Process Tank (EU-T02) on a rolling 12-month basis.

Authority for Requirement: DNR Construction Permit 07-A-081-S2

NSPS and NESHAP Applicability

NSPS Subpart VVa: 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). Subject to the General Provisions of Subpart A.

Authority for Requirement: DNR Construction Permit 07-A-081-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 33.25
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 07-A-081-S2
The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-T03

Associated Equipment

Emission Unit vented through this Emission Point: EU-T03
Emission Unit Description: Denaturant (unleaded gasoline) Storage Tank
Raw Material/Fuel: Denaturant
Rated Capacity: 200,000 gallons
Emissions Control Equipment ID Number: CE-T03
Emissions Control Equipment Description: Internal Floating Roof

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

No Applicable limits at this time.

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

Operating Limits

Operating limits for this emission unit shall be:

A. This tank shall be used to store only denaturant.

B. 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).

C. The owner or operator shall follow the applicable standards of Subpart VVa, 40 CFR 60.480a through 40 CFR 60.489a.

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

A. The owner or operator shall keep 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.

C. The owner or operator shall keep records as required in 40 CFR 60.486a, and reports as required in 40 CFR 60.487a.

NSPS and NESHAP Applicability
NSPS Subpart VVa: 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). Subject to the General Provisions of Subpart A.

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 of the NSPS. Subject to the General Provisions of Subpart A.
Authority for Requirement: DNR Construction Permit 07-A-084-S1

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

Stack Height, (ft, from the ground): 33.25
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 07-A-084-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-T04

Associated Equipment

Emission Unit vented through this Emission Point: EU-T04
Emission Unit Description: Ethanol Storage Tank #1
Raw Material/Fuel: Ethanol
Rated Capacity: 1,500,000 gallons
Emissions Control Equipment ID Number: CE-T04
Emissions Control Equipment Description: Internal Floating Roof

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

No Applicable limits at this time.

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

Operating Limits

Operating limits for this emission unit shall be:

A. This tank shall be used to store only ethanol (denatured or undenatured).

B. The fixed roof in combination with an internal roof shall meet the specifications as stated in 40 CFR Part 60§112b(a)(1).

C. The owner or operator shall follow the applicable standards of Subpart VVa, 40 CFR 60.480a through 40 CFR 60.489a.

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

A. Record and report as specified in 40 CFR Part 60§60.116b(a), *Reporting and recordkeeping requirements.*

B. Record as specified in 40 CFR Part 60§60.116b(a), the owner of operator shall keep copies of all records required by 60§60.116b(b) for the life of the source.

C. Record as specified in 40 CFR Part 60§60.116b(a), the owner or operator shall keep readily accessible records showing the dimension of the storage vessel and analysis showing the capacity of the vessel.

D. As specified in 40 CFR 60§60.116b(c), the owner or operator shall maintain a record of the volume stored, the period of storage, and the maximum true vapor pressure of that volume during the respective storage period.

E. The owner or operator shall keep records as required in 40 CFR 60.486a, and reports as required in 40 CFR 60.487a.

NSPS and NESHAP Applicability

The storage tank is subject to 40 CFR Part 60, Subpart A – General Provisions (40 CFR §60.1 through 40 CFR §60.19) of the New Source Performance Standards and 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 (40 CFR §60.110b through 40 CFR §60.117b) and is also subject to the requirements of 567 IAC 23.1(2)"ddd". The facility is also subject to NSPS 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.

Authority for Requirement: DNR Construction Permit 07-A-082-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 40.33
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 07-A-082-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-T05

Associated Equipment

Emission Unit vented through this Emission Point: EU-T05
Emission Unit Description: Ethanol Storage Tank #2
Raw Material/Fuel: Ethanol
Rated Capacity: 1,500,000 gallons
Emissions Control Equipment ID Number: CE-T05
Emissions Control Equipment Description: Internal Floating Roof

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

No Applicable limits at this time.

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

Operating Limits

Operating limits for this emission unit shall be:

A. This tank shall be used to store only ethanol (denatured or undenatured).

B. The fixed roof in combination with an internal roof shall meet the specifications as stated in 40 CFR Part 60§112b(a)(1).

C. The owner or operator shall follow the applicable standards of Subpart VVa, 40 CFR 60.480a through 40 CFR 60.489a.

Reporting and Recordkeeping

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

A. Record and report as specified in 40 CFR Part 60§60.116b(a), *Reporting and recordkeeping requirements.*

B. Record as specified in 40 CFR Part 60§60.116b(a), the owner of operator shall keep copies of all records required by 60§60.116b(b) for the life of the source.

C. Record as specified in 40 CFR Part 60§60.116b(a), the owner or operator shall keep readily accessible records showing the dimension of the storage vessel and analysis showing the capacity of the vessel.

D. As specified in 40 CFR 60§60.116b(c), the owner or operator shall maintain a record of the volume stored, the period of storage, and the maximum true vapor pressure of that volume during the respective storage period.

E. The owner or operator shall keep records as required in 40 CFR 60.486a, and reports as required in 40 CFR 60.487a.

NSPS and NESHAP Applicability
The storage tank is subject to 40 CFR Part 60, Subpart A – General Provisions (40 CFR §60.1 through 40 CFR §60.19) of the New Source Performance Standards and 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 (40 CFR §60.110b through 40 CFR §60.117b) and is also subject to the requirements of 567 IAC 23.1(2)"ddd". The facility is also subject to NSPS 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.

Authority for Requirement: DNR Construction Permit 07-A-083-S2

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

Stack Height, (ft, from the ground): 40.33
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 07-A-083-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-T06

Associated Equipment

Emission Unit vented through this Emission Point: EU-T06
Emission Unit Description: Corrosion Inhibitor Storage Tank
Raw Material/Fuel: Corrosion Inhibitor
Rated Capacity: 2,300 gallons

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

No Applicable limits at this time.

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

Stack Height, (ft, from the ground): NA
Stack Opening, (inches, dia.): NA
Exhaust Flow Rate (scfm): Working & Breathing Loss
Exhaust Temperature (°F): Ambient
Discharge Style: NA
Authority for Requirement: DNR Construction Permit 08-A-228

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-FUG5

Associated Equipment

Emission Unit vented through this Emission Point: EU-FUG5
Emission Unit Description: VOC Emissions from Equipment Leaks
Raw Material/Fuel: VOC Fugititive Emissions

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(s): 13.41 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-078-S3

Pollutant: Total HAP
Emission Limit(s): 2.34 tons/yr
Authority for Requirement: DNR Construction Permit 07-A-078-S3

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

Operating Limits

Operating limits for this emission unit shall be:

A. The owner or operator shall comply with all applicable requirements in 40 CFR Part 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* [§60.480a - §60.489a].

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

A. The owner or operator shall determine the facility's VOC emissions over the previous month using the calculation methods outlined in EPA's document 453/R-95-017 titled: *Protocol for Equipment Leak Emission Estimates* (pages 2-10 through 2-38).

B. The owner or operator shall determine the facility's HAP emissions over the previous month using the HAP content of the LDAR regulated process streams multiplied by the VOC emissions calculated in Section Reporting and Recordkeeping Condition A.

C. At the end of the following month, record the total VOC and HAP emissions over the previous month by adding the emission totals for each section as determined in Section Reporting and Recordkeeping Condition A and B.

D. At the end of the following month, record the total VOC and HAP emissions over the previous twelve (12) months as determined in Section Reporting and Recordkeeping Condition C.

E. The owner or operator shall comply with the applicable recordkeeping and reporting requirements in §60.486a and §60.487a, respectively.

NSPS and NESHAP Applicability

- This facility (Plant No. 47-04-001) is subject to Title 40 of the Code of Federal Regulations (CFR) Part 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* [567 Iowa Administrative Code (IAC) 23.1(2)"*nn*"].

- In addition, any affected emission unit at this facility (Plant No. 47-04-001) is subject to the requirements in 40 CFR Part 60, Subpart A – *General Provisions* [§60.1 - §60.19].

Authority for Requirement: DNR Construction Permit 07-A-078-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): NA
Stack Opening, (inches, dia.): NA
Exhaust Flow Rate (scfm): NA
Exhaust Temperature (°F): NA
Discharge Style: NA
Authority for Requirement: DNR Construction Permit 07-A-078-S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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.

Performance Testing:

Pollutant - VOC
Frequency – 12-month rolling
Test Method – See Note 1
Authority for Requirement - DNR Construction Permit 07-A-078-S3

Pollutant – Total HAP
Frequency – 12-month rolling
Test Method – See Note 2
Authority for Requirement - DNR Construction Permit 07-A-078-S3

Note 1: Determine VOC emissions from the facility using the calculation methods outlined in EPA's document 453/R-95-017 titled: *Protocol for Equipment Leak Emission Estimates*. Keep records as indicated in Reporting and Recordkeeping Section.

Note 2: Determine HAP emissions from the facility using the HAP content of the LDAR regulated process streams multiplied by the calculated VOC emissions. Keep records as indicated in Reporting and Recordkeeping Section.

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-S120

Associated Equipment

Emission Unit vented through this Emission Point: EU-S120
Emission Unit Description: Column Grain Dryer
Raw Material/Fuel: Corn, Natural Gas
Rated Capacity: 62.1 MMBtu/hr, 10,000 bu/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.
Pollutant: Opacity
Emission Limit(s): 40%(1)
Authority for Requirement: DNR Construction Permit 10-A-323
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 21.03 lb/hr
Authority for Requirement: DNR Construction Permit 10-A-323

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 21.03 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 10-A-323
567 IAC 23.4(7)

Pollutant: Sulfur Dioxide (SO_x)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 10-A-323
567 IAC 23.3(3)

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

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

Stack Height, (ft, from the ground): NA
Stack Opening, (inches, dia.): NA
Exhaust Flow Rate (scfm): 500,000
Exhaust Temperature (°F): 120
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 10-A-323

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

NSPS and NESHAP Applicability

This emission unit is the source type subject to New Source Performance Standards (NSPS) Subpart DD – Standards of Performance for Grain Elevators. This emission unit, EU S120, is a column dryer with a column plate perforation not exceeding 2.4 mm diameter. Therefore, it is not subject to the particulate matter standards of this subpart

Authority for Requirement: DNR Construction Permit 10-A-323

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-S130

Associated Equipment

Emission Unit vented through this Emission Point: EU-E130, EU-E131
Emission Unit Description: Steel Corn Storage Bin (2)
Raw Material/Fuel: Corn
Rated Capacity: 1,218,779 bushels each
Emissions Control Equipment ID Number: CE-C130
Emissions Control Equipment Description: Baghouse

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 10-A-324-S2
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 2.36 lb/hr
Authority for Requirement: DNR Construction Permit 10-A-324-S2

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 2.36 lb/hr; 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 10-A-324-S2
567 IAC 23.4(7)

[1] An exceedance of the indicator opacity of 10% will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

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

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

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

A. Record all maintenance and repair to the control equipment.

NSPS and NESHAP Applicability

The facility (Plant 47-04-001) is subject to New Source Performance Standards (NSPS) *Subpart DD - Standards of Performance for Grain Elevators (§60.300 to §60.304)*. With the installation of EU E131 the facility's permanent storage capacity exceeds 2.5 million bushels. The affected facilities are each truck unloading station, truck loading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations[1]. The affected facilities are also subject to the General Provisions of 40 CFR Part 60, Subpart A (40 CFR §60.1 – 40 CFR §60.19).

NOTE: Affected facilities that were installed prior to exceeding 2.5 million bushels of permanent storage capacity are not subject to NSPS Subpart DD. However, if the existing facilities were modified or reconstructed and do not meet the modification exemptions in Section 60.304(b), they are subject to Subpart DD. Affected facilities that were installed at the same time that the facility exceeded 2.5 million bushels of permanent storage capacity are subject to NSPS Subpart DD.

[1] *Grain handling operations* include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpers, cleaners, trippers, and the headhouse and other such structures.

Authority for Requirement: DNR Construction Permit 10-A-324-S2

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

Stack Height, (ft, from the ground): 151
Stack Opening, (inches, dia.): 40
Exhaust Flow Rate (scfm): 27,500
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 10-A-324-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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 Arthur, LLC
Facility located in Arthur, Iowa

EP-S130 – Steel Corn Storage Bin Baghouse

I. Background

A. Emissions Unit
Description: Steel Corn Storage Bins (EU-E130, EU-E131)
Facility: Flint Hills Resources Arthur, LLC
Arthur, IA

B. Applicable Regulation, Emission Limit, and Monitoring Requirements
Regulation No.: Construction Permit #10-A-324-S2
PM emission limit or standard: 2.36 lbs/hr PM; 0.1 gr/dscf PM
PM_{10} emission limit or standard: 2.36 lbs/hr PM_{10}

C. Control Technology: Fabric Filter Baghouse (CE-C130)

II. Steel Corn Storage Bin Baghouse Monitoring Approach

A. Indicators
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

	Indicator No. 1
I. 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	A pressure drop of 0.1 to 4 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 of adjustment will be implemented to procedures to address the excursion.
QIP Threshold	An accumulation of excursions below the indicator range of six or more for a reporting period excluding periods of startup, shutdown, and malfunction
III. Performance Criteria	

	Indicator No. 1
A. Data Representativeness	Pressure drop is measured across the system.
B. Verification of Operational Status	Records of pressure drop readings will be maintained for five years.
C. QA/QC Practices and Criteria	Calibrate, maintain, and operate instrumentation in accordance with manufacturer's recommendation
D. Monitoring Frequency	The pressure drop will be recorded a minimum of once per day during operations.
Data Collection	The pressure drop will be recorded electronically or manually.
Averaging Period	Not Applicable
E. Record Keeping	Maintain for a period of five years records of corrective actions taken in response to excursions.
F. Reporting	Number, duration, and cause of any excursion and the corrective action taken
Frequency	Semiannually

III. Justification

A. Background

PM and PM_{10} emissions from the Steel Corn Storage Bins (EU-E130, EU-E131) are controlled by the Steel Corn Storage 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 and PM_{10}. Baghouses are subject to failure if they are not properly operated and maintained. An indicator pressure drop of 0.1 to 4 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-S150

Associated Equipment

Emission Unit vented through this Emission Point: EU-E110, EU-E111, EU-E112
Emission Unit Description: Steel Bin Receiving Pit – EU-E110
Steel Bin Receiving Elevator – EU-E111
Truck Corn Loadout – EU-E112
Raw Material/Fuel: corn
Rated Capacity: 20,000 bu/hr – EU-E110
20,000 bu/hr – EU-E111
8,500 bu/hr – EU-E112
Emissions Control Equipment ID Number: CE-C150
Emissions Control Equipment Description: Baghouse

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): 0%
Authority for Requirement: DNR Construction Permit 11-A-646-S3
567 IAC 23.1(2)"ooo"
40 CFR 60 Subpart DD

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.56 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-646-S3

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.90 lb/hr
Authority for Requirement: DNR Construction Permit 11-A-646-S3

Pollutant: Particulate Matter – Federal(PM)
Emission Limit(s): 0.01 gr/dscf
Authority for Requirement: DNR Construction Permit 11-A-646-S3
567 IAC 23.1(2)"ooo"
40 CFR 60 Subpart DD

Operational Limits & Requirements

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

Operating Limits

Operating limits for this emission unit shall be:

A. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.

Reporting and Recordkeeping

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

A. Record all maintenance and repair to the control equipment.

NSPS and NESHAP Applicability

The facility (Plant 47-04-001) is subject to New Source Performance Standards (NSPS) *Subpart DD - Standards of Performance for Grain Elevators (§60.300 to §60.304)*. With the installation of EU E131 the facility's permanent storage capacity exceeds 2.5 million bushels. The affected facilities are each truck unloading station, truck loading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations[1]. The affected facilities are also subject to the General Provisions of 40 CFR Part 60, Subpart A (40 CFR §60.1 – 40 CFR §60.19).

NOTE: Affected facilities that were installed prior to exceeding 2.5 million bushels of permanent storage capacity are not subject to NSPS Subpart DD. However, if the existing facilities were modified or reconstructed and do not meet the modification exemptions in Section 60.304(b), they are subject to Subpart DD. Affected facilities that were installed at the same time that the facility exceeded 2.5 million bushels of permanent storage capacity are subject to NSPS Subpart DD.

[1] *Grain handling operations* include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpers, cleaners, trippers, and the headhouse and other such structures.

Authority for Requirement: DNR Construction Permit 11-A-646-S3

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

Stack Height, (ft, from the ground): 32
Stack Opening, (inches, dia.): 35
Exhaust Flow Rate (scfm): 10,500
Exhaust Temperature (°F): Ambient
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 11-A-646-S3

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify 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-180

Associated Equipment

Emission Unit vented through this Emission Point: EU-180
Emission Unit Description: Emergency Generator Administration Building
Raw Material/Fuel: Liquefied Petroleum Gas
Rated Capacity: 132 bhp

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.4(7)

Pollutant: Hydrocarbons + Nitrogen Oxides ($HC+NO_x$)
Emission Limit(s): 2.00 g/hp-hr
Authority for Requirement: 567 IAC 23.1(2)"zzz"
40 CFR 60 Subpart JJJJ

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 1.00 g/hp-hr
Authority for Requirement: 567 IAC 23.1(2)"zzz"
40 CFR 60 Subpart JJJJ

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 4.00 g/hp-hr
Authority for Requirement: 567 IAC 23.1(2)"zzz"
40 CFR 60 Subpart JJJJ

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

Operating Limits

Operating limits for this emission unit shall be:

A. The engine must be certified to meet the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power.

B. In accordance with §60.4237(c), the engine shall be equipped with a non-resettable hour meter.

C. If you operate and maintain the certified stationary SI Internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of maintenance to demonstrate compliance, but no performance testing is required. You must also meet the requirements as specified in 40 CFR Part 1068 Subparts A through D as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

D. If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to §60.4233(a)(2)(i) through (iii), as appropriate.

E. The engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4248 and in accordance with §60.4233(d). There is no time limit on the use of the engine in emergency situations. In accordance with §60.4233(d)(2), the engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.

F. To qualify as an emergency stationary internal combustion engine, the engine is allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted towards the 100 hours for maintenance and testing.

Reporting and Recordkeeping

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

A. The owner or operator shall maintain the following monthly records:
   a. The number of hours that the engine operated for maintenance checks and readiness testing;
   b. The number of hours the engine operated for allowed non-emergency operations;
   c. The total number of hours that the engine operated in emergency situation, including what classified the operation as emergency;
   d. The rolling 12-month total amount of the number of hours that the engine operated.
   e.

B. The owner or operate shall maintain the follow calendar year records:
   a. The number of hours that the engine operated for maintenance checks and readiness testing;
   b. The number of hours the engine operated for allowed non-emergency operations.

NSPS and NESHAP Applicability

This engine is subject to 40 CFR Part 60 NSPS Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (IAC 23.1(2)"zzz").

This engine is of the source type regulated by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP) [40 CFR Part 63, Subpart ZZZZ). The engine is a new reciprocating internal combustion engine located at an area source of HAP emissions. In accordance with §63.6590 (c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS subpart JJJJ. No further requirements apply to this engine under Subpart ZZZZ.

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP-185

Associated Equipment

Emission Unit vented through this Emission Point: EU-185
Emission Unit Description: Emergency Generator Process Building
Raw Material/Fuel: Liquefied Petroleum Gas
Rated Capacity: 80 bhp

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter – State (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: 567 IAC 23.4(7)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 10.00 g/hp-hr
Authority for Requirement: 567 IAC 23.1(2)"zzz"
40 CFR 60 Subpart JJJJ

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 387 g/hp-hr
Authority for Requirement: 567 IAC 23.1(2)"zzz"
40 CFR 60 Subpart JJJJ

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

Operating Limits

Operating limits for this emission unit shall be:

A. The engine must be certified to meet the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power.

B. In accordance with §60.4237(c), the engine shall be equipped with a non-resettable hour meter.

C. If you operate and maintain the certified stationary SI Internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of maintenance to demonstrate compliance, but no performance testing is required. You must also meet the requirements as specified in 40 CFR Part 1068 Subparts A through D as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

D. If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to §60.4233(a)(2)(i) through (iii), as appropriate.

E. The engine is limited to operate as an emergency stationary internal combustion engine as defined in §60.4248 and in accordance with §60.4233(d). There is no time limit on the use of the engine in emergency situations. In accordance with §60.4233(d)(2), the engine is limited to operate a maximum of 100 hours per calendar year for maintenance checks and readiness testing.

F. To qualify as an emergency stationary internal combustion engine, the engine is allowed to operate up to 50 hours per year in non-emergency situations, but the 50 hours are counted towards the 100 hours for maintenance and testing.

Reporting and Recordkeeping

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

A. The owner or operator shall maintain the following monthly records:
   a. The number of hours that the engine operated for maintenance checks and readiness testing;
   b. The number of hours the engine operated for allowed non-emergency operations;
   c. The total number of hours that the engine operated in emergency situation, including what classified the operation as emergency;
   d. The rolling 12-month total amount of the number of hours that the engine operated.

B. The owner or operate shall maintain the follow calendar year records:
   a. The number of hours that the engine operated for maintenance checks and readiness testing;
   b. The number of hours the engine operated for allowed non-emergency operations.

NSPS and NESHAP Applicability

This engine is subject to 40 CFR Part 60 NSPS Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (IAC 23.1(2)"zzz").

This engine is of the source type regulated by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP) [40 CFR Part 63, Subpart ZZZZ). The engine is a new reciprocating internal combustion engine located at an area source of HAP emissions. In accordance with §63.6590 (c)(1), the engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS subpart JJJJ. No further requirements apply to this engine under Subpart ZZZZ.

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*
6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 22.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—22.104(455B), permit expiration terminates a source's right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—22.105(455B). *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department to the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Windsor Heights, Iowa 50324, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to U.S. EPA Region VII, Attention: Chief of Air Permits, 11201 Renner Blvd., Lenexa, KS 66219. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
    a. Form 1.0 "Facility Identification";
    b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
    c. Form 5.0 "Title V annual emissions summary/fee"; and
    d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
    a. Form 1.0 "Facility Identification";
    b. Form 5.0 "Title V annual emissions summary/fee";
    c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.

6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:
1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

a. The date, place and time of sampling or measurements
b. The date the analyses were performed.
c. The company or entity that performed the analyses.
d. The analytical techniques or methods used.
e. The results of such analyses; and
f. The operating conditions as existing at the time of sampling or measurement.
g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.
3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.
1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 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 except 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedances of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

    a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.

    b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.

    c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.

    d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.

2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.

    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.

    c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

    d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

    e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

    f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air

conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

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

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;

b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;

c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.

d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the

permit.

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 22.114(3)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or

b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of 567 IAC 22.111(1). *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department's request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 725-9545

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.

567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
U.S. EPA Region 7
Air Permits and Compliance Branch
11201 Renner Blvd.
Lenexa, KS 66219
(913) 551-7020

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

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Windsor Heights, IA 50324
(515) 725-9500

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
7900 Hickman Road, Suite #200
Windsor Heights, IA 50324
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health
Air Quality Branch
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendices:

A. 40 CFR 60 Subpart A – General Provisions
http://tceq.state.tx.us/permitting/air/rules/federal/60/ahp.html
B. 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
http://www.tceq.state.tx.us/permitting/air/rules/federal/60/dbhp.html
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.tceq.state.tx.us/permitting/air/rules/federal/60/kbhp.html
D. 40 CFR 60 Subpart DD – Standards of Performance for Grain Elevators
http://www.tceq.state.tx.us/permitting/air/rules/federal/60/ddhp.html
E. 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.tceq.state.tx.us/permitting/air/rules/federal/60/vvahp.html
F. 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
http://www.tceq.state.tx.us/permitting/air/rules/federal/60/iiiihp.htm
G. 40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
https://www.tceq.texas.gov/permitting/air/rules/federal/60/jjjjhp.html
H. 40 CFR 63 Subpart A – General Provisions
https://www.tceq.texas.gov/permitting/air/rules/federal/63/ahp.html
I. 40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
https://www.tceq.texas.gov/permitting/air/rules/federal/63/zzzzhp.html
J. **DNR Construction Permit 07-A-071-S**8

Air Quality Construction Permit

Permit Number: 07-A-071-S8

Plant Number: 47-04-001

Company: Flint Hills Resources Arthur, LLC

Contact Person:
Sufana Huq
Environmental Manager

(712) 367-2708
Sufana.Huq@fhr.com

2585 Quail Avenue
Arthur, IA 51431

Responsible Party:
Brian Bence
Plant Manager

Permitted Equipment

Emission Point ID: EP S40

Emission Unit(s) and Control Equipment:

EU ID	Description	Maximum Rated Capacity	Control Equipment Description and ID
EU 58 - EU 64	Fermenter #1 - #7	807,000 gallons each	CO_2 Scrubber (CE C40)
EU 106 and EU 107	Fermenter #8 and #9	807,000 gallons each	CO_2 Scrubber (CE C40)
EU 65	Beer Well	1,080,000 gallons	CO_2 Scrubber (CE C40)
		1926 gal/min Total Process Flow	

Equipment Location: 2585 Quail Avenue
Arthur, IA 51431

Issuance of this permit shall not relieve the owner or operator of the responsibility to comply fully with applicable provisions of the State Implementation Plan (SIP), and any other requirements of local, state, and federal law.

Project Number	Project Description	Stack Testing	Issuance Date
15-451	Update CO2 Scrubber Pressure Drop Range	Yes	03/09/2016

Under the Direction of the Director of the
Department of Natural Resources

PERMIT CONDITIONS

1. Emission Limits

The owner or operator is required to report all emissions as required by law, regardless of whether a specific emission limit has been established in this permit. The following emission limits shall not be exceeded:

Pollutant	lb/hr[1]	tons/yr[2]	Other Limits	Reference/Basis
Particulate Matter (PM) – State	0.14[3]	NA	0.1 gr/dscf	567 IAC 23.4(7)
PM_{10}	0.14[3]	NA	NA	NAAQS
Opacity	NA	NA	40%[4,5]	567 IAC 23.3(2)"d"
Volatile Organic Compounds (VOC)	20.0[6]	NA	NA	Limit PTE
Acetaldehyde	0.99[7]	NA	NA	Limit PTE
(Single HAP)	0.06[7]	NA	NA	Limit PTE
(Total HAP)	1.12[7]	NA	NA	Limit PTE

[1] The emission limit is expressed as the average of three (3) runs.
[2] The emission limit is a twelve (12) month rolling total.
[3] Emission limits were established to limit facility's PTE in order in stay minor for PSD in Project #08-103.
[4] The emission limit is a six (6) minute average.
[5] 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).
[6] Emission limits were established to limit facility's PTE in order to stay minor for PSD in Project #12-326.
[7] Emission limits were established to limit facility's PTE in order to stay as an areas source for NESHAP in Project #14-199

2. Compliance Demonstration(s)

Compliance Demonstration Table

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
PM – State	None	NA	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51 Appendix M Method 202
PM_{10}	None	NA	1 hour	40 CFR 51, Appendix M, 201A with 202
Opacity	None	NA	1 hour	40 CFR 60, Appendix A, Method 9
VOC	Stack Testing	Annually[1]	1 hour	40 CFR 63, Appendix A, Method 320 or 40 CFR 60, Appendix A, Method 18
Acetaldehyde	Stack Testing	Annually[1]	1 hour	40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Single HAP	Stack Testing	Annually[1]	1 hour	40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method
Total HAP	Stack Testing	Annually[1]	1 hour	40 CFR 60, Appendix A, Method 18, or Method 320, or other approved method

[1] Annual testing shall be performed during the months of June, July, or August.

If an initial stack test is specified in the "Compliance Demonstration Table," the owner or the owner's authorized agent shall demonstrate compliance with the emission limitations contained in this condition within the time applicable period specified below:

- Within sixty (60) days after achieving the maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment for the addition of new equipment or the physical modification of existing equipment or control equipment.

- Within ninety (90) days of the issuance of this permit if there is no physical modification to any emission units or control equipment.

<u>If any additional stack testing beyond an initial test (i.e. quarterly, semi-annual, annual, etc.) is required in "Compliance Demonstration Table,"</u> the owner or the owner's authorized agent shall demonstrate compliance with the emission limitations contained in this condition as specified in the "Compliance Demonstration Table." See Conditions 12.A.(4) and 12.B.(5) for notification and reporting requirements.

If stack testing is required, the owner or the owner's authorized agent shall use the test method and run time listed in the "Compliance Demonstration Table" unless another testing methodology is approved by the Department prior to testing.

Each emissions compliance test must be approved by the Department. Unless otherwise specified by the Department, each test shall consist of three (3) separate runs. The arithmetic mean of three (3) acceptable test runs shall apply for compliance, unless otherwise indicated by the Department.

Per 567 IAC 25.1(7)"a", at the Department's request, a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. Representatives from the Department shall attend this meeting, along with the owner and the testing firm, if any. It shall be the responsibility of the owner to coordinate and schedule the pretest meeting. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall be operated 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 this unit(s) will be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the Department that this unit(s) 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 this unit(s) is in compliance.

3. Emission Point Characteristics

This emission point shall conform to the specifications listed below:

Parameter	Value
Stack Height (feet from the ground)	80.2
Discharge Style	Vertical Unobstructed
Stack Outlet Dimensions (inches)	28
Exhaust Temperature (^{o}F)	100
Exhaust Flowrate (scfm)	14,930

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

4. Federal Standards

A. New Source Performance Standards (NSPS):

This emission unit is not subject to any NSPS subparts at this time as there are no applicable subparts for its source category.

NOTE: The absence of the inclusion of any NSPS requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NSPS conditions.

B. National Emission Standards for Hazardous Air Pollutants (NESHAP):

This facility is of the source type regulated by the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Industry, Area Sources (40 CFR 63 Subpart VVVVVV). Based on the information provided to the Department the HAP concentrations in the fluid stream in these facilities are not above the applicability threshold listed in this standard. Therefore, at this time, this facility is not subject to this standard.

This facility is of the source type regulated by 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"). To be subject to this standard the facility must be a major source of HAPs. Based on the emission limits established in this permit and those issued to this facility, this facility is an area source of HAPs. As such, this facility is not subject to this standard at this time.

NOTE: The absence of the inclusion of any NESHAP requirements as part of this permit does not relieve the owner or operator from any obligation to comply with all applicable NESHAP conditions.

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5. Operating Requirements with Associated Monitoring and Recordkeeping

Unless specified by a federal regulation, all records as required by this permit shall be kept on-site for a minimum of two (2) 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:

C. The owner or operator shall operate and maintain equipment to continuously monitor the production rate (in gpm). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

D. The control equipment shall be operated at all times any of the equipment controlled by the device is in operation. The control equipment shall be limited to using ammonium bisulfite (ABS), sodium bisulfite (SBS), VOXout or any other approved additive.

E. Use of any new additive requires the owner or operator to first request a variance to test the additive. Performance test results will need to be submitted to DNR for review. Provided DNR accepts the test results, the owner or operator will then be allowed to use the new additive.

F. If the owner or operator wants to operate the CO_2 scrubber at a lower liquid circulation rate and additive feed rate as allowed in Permit Condition 5.E(i), the owner or operator will need to request a variance to conduct testing. Performance test results will then need to be submitted to DNR for review and approval.

G. When using ammonium bisulfite (ABS), sodium bisulfite (SBS), VOXout or any other approved additive:

   d. The CO_2 scrubber shall have a minimum liquid (water) flow rate which is calculated as 90 percent of the average liquid flow rate observed during the most recent performance test that demonstrated compliance with all applicable emission limits.

   e. The CO_2 scrubber shall maintain an average differential pressure drop across the scrubber between 2 and 9 inches water column on a 24-hour 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 of less than 2 inches water column or a pressure drop across the wet scrubber of greater than 9 inches water column.

      a. When the Fermentation Process is running at 1000 gallons per minute or less, the average differential pressure drop across the scrubber shall be maintained between 1 and 9 inches water column on a 24-hour averaging period.

f. The additive feed rate (in milliliters per minute) shall be maintained at or above the average rate observed during the most recent performance test that demonstrated compliance with all applicable emission limits.

H. The owner or operator shall operate and maintain equipment to continuously monitor:
   a. The liquid circulation rate for the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
   b. The differential pressure drop for the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.
   c. The type of additive used and the additive feed rate to the CO_2 scrubber. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

I. The owner or operator shall record:
   a. The scrubber liquid (water) flow rate on a continuous basis. If the rate deviates below the minimum flow rate required (i.e., 90% of the flow rate during a previous performance test that demonstrated compliance), then record the time, date and actions taken to correct the situation and when the flow rate is back above the minimum flow rate required. All excess emission reporting shall be conducted in accordance with Permit Conditions 11 and 12.
   b. The scrubber pressure drop on a continuous basis. On those days when there is an alarm for the pressure drop reaching less than 2 inches water column or greater than 9 inches water column, calculate and record the average pressure drop across the scrubber based on a 24-hour average. This requirement shall not apply on the days that the scrubber is not in operation. If the pressure drop deviates outside the range required, then record the time, date and actions taken to correct the situation and when the pressure drop is back in the average pressure drop range required.
      i. When the Fermentation Process is running at 1000 gallons per minute or less, calculate and record the average pressure drop across the scrubber based on a 24-hour average when the pressure drop reaches less than 1 inches water column or greater than 9 inches water column. If the pressure drop deviates outside the range required, then record the time, date and actions taken to correct the situation and when the pressure drop is back in the average pressure drop range required.
   c. The rate of additive added (additive feed rate) to the scrubber liquid on a continuous basis. If the additive feed rate deviates below the rate required (i.e. additive feed rate during a previous performance test that demonstrated compliance), then record the time, date and actions taken to correct the situation and also when the additive feed rate is back above the minimum required feed rate. All excess emission reporting shall be conducted in accordance with Permit Conditions 11 and 12.

J. The control equipment shall be inspected and maintained according to the facility's (plant# 47-04-001) operation and maintenance plan.
   a. The owner or operator shall maintain a record of all inspections, maintenance and any action resulting from the inspection or maintenance of the control equipment and the monitoring devices.

K. Excess emissions from start-up or malfunction (i.e. pressure release valves, upset conditions, etc) shall be recorded and counted towards the permit emission limits.

L. Maintain onsite a copy of the previous performance tests for each scrubber operating scenario detailing scrubber pressure drop, scrubber liquid flow rate, and additive feed rate measured during each performance test, which demonstrated compliance with Permit Condition 1.

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6. Continuous Emission Monitoring Systems (CEMS)

Continuous emission monitoring is not required by this permit at this time.

7. Department Review

This permit is issued under the authority of 567 Iowa Administrative Code (IAC) 22.3. The proposed equipment has been evaluated for conformance with Iowa Code Chapter 455B; 567 IAC Chapters 20 – 35; and 40 Code of Federal Regulations (CFR) Parts 51, 52, 60, 61, and 63 and has the potential to comply. This permit is issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant or by the applicant's representative(s) shall cause this permit to be void.
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. The Department assumes no liability, directly or indirectly, for any loss due to damage to persons or property caused by, resulting from, or arising out of the design, installation, maintenance or operation of the proposed equipment.

8. Owner and Operator Responsibility

This permit is for the construction and operation of specific emission unit(s), control equipment, and emission point as described in this permit and in the application for this permit. The permit holder, owner, and operator of the facility shall assure that the installation of the equipment listed in this permit conforms to the design in the application (i.e. type, maximum rated capacity, etc.). No person shall construct, install, reconstruct or alter this emission unit(s), control equipment, or emission point without the required amended permit.

Any owner or operator of the specified emission unit(s), control equipment, or emission point, including any person who becomes an owner or operator subsequent to the date on which this permit is issued, is responsible for assuring that the installation, operation, and maintenance of the equipment listed in this permit is in compliance with the provisions of this permit and all other applicable requirements and that adequate operation and maintenance is provided to ensure that no condition of air pollution is created.

9. Transferability

Unless the equipment is portable, this permit is not transferable from one location to another or from one piece of equipment to another. See Condition 12.A.(2) for notification requirements for relocating portable equipment (567 IAC 22.3(3)"f").

10. Construction

A. General Requirements:
It is the owner's responsibility to ensure that construction conforms to the final plans and specifications as submitted.

In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. If a proposed project is not timely completed, the owner or operator shall seek a permit amendment in order to revert back to the most recent previous version of the permit. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

This permit or amendment shall become void if any one of the following conditions occurs:
(1) The construction or implementation of the proposed project, as it affects the emission point permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) The construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) The construction or implementation of the proposed project, as it affects the emission point permitted herein, is not completed within a time period specified elsewhere in this permit.

B. Changes to Plans and Specifications:
The owner or operator shall amend this permit or amendment prior to startup of the equipment if:
(1) Any changes are made to the final plans and specifications submitted for the proposed project; or

(2) This permit becomes void.

Changes to the final plans and specification shall include changes to plans and specifications for permitted equipment and control equipment and the specified operation thereof.

C. Amended Permits:
The owner or operator may continue to act under the provisions of the previous permit for the affected emission unit(s) and emission point, together with any previous amendment to the permit, until one of the following conditions occurs:
(1) The proposed project authorized by this amendment is completed as it affects the emission unit(s) and emission point permitted herein; or
(2) This current amendment becomes void.

11. Excess Emissions

Per 567 IAC 24.1(1), excess emissions during a period of startup, shutdown, or cleaning of control equipment are not a violation of the emission standard if it is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions except when another regulation applicable to the unit or process provides otherwise. Cleaning of control equipment, which does not require the shutdown of process equipment, shall be limited to one (1) six-minute period per one (1) hour period.

An incident of excess emissions other than the above is a violation and may be subject to criminal penalties according to Iowa Code 455B.146A. If excess emissions are occurring, either the control equipment causing the excess shall be repaired in an expeditious manner, or the process generating the emissions shall be shutdown within a reasonable period of time, as specified in 567 IAC 24.1.

An incident of excess emissions shall be orally reported by telephone, electronic mail or in person to the appropriate field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident [See Permit Condition 12.B.(1)]. A written report of an incident of excess emissions shall be submitted as a follow-up to all required initial reports within seven (7) days of the onset of the upset condition [See Permit Condition 12.B.(2)].

12. Notification, Reporting, and Recordkeeping

A. The owner or operator shall furnish the Department the following written notifications:
(1) Per 567 IAC 22.3(3)“b”:
(a) The date construction, installation, or alteration is initiated postmarked within thirty (30) days following initiation of construction, installation, or alteration.
(b) The actual date of startup, postmarked within fifteen (15) days following the start of operation.
(2) Per 567 IAC 22.3(3)“f,” when portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified:
(a) At least fourteen (14) days before equipment relocation if the equipment will be located in a nonattainment area for the National Ambient Air Quality Standards (NAAQS) or a maintenance area for the NAAQS.
(b) At least seven (7) days before equipment relocation.
(3) Per 567 IAC 22.3(8), a new owner shall notify the Department of the transfer of equipment ownership within thirty (30) days of the occurrence. The notification shall include the following information:
- The date of ownership change; the name, address, and telephone number of the responsible official, the contact person, and the owner of the equipment both before and after the ownership change; and the construction permit number(s) of the equipment changing ownership.

(4) Unless specified per a federal regulation, the owner or the owner’s authorized agent shall notify the Department in writing not less than thirty (30) days before a required test or performance evaluation of a continuous emission monitor [567 IAC 25.1(7)]. The notification shall include:
- The time; the place; the name of the person who will conduct the tests; 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 the applicable rules or permit conditions. Upon written request, the Department may allow a notification period of less than thirty (30) days.

B. The owner or operator shall furnish the Department with the following reports:
   (1) Per 567 IAC 24.1(2), an incident of excess emissions as defined in 567 IAC 20.2 shall be reported within eight (8) hours or at the start of the first working day following the onset of the incident. The report may be made by electronic mail, in person or by telephone.
   (2) Per 567 IAC 24.1(3), a written report of an incident of excess emissions as defined in 567 IAC 20.2 shall be submitted as a follow-up to all required initial reports to the Department within seven (7) days of the onset of the upset condition.
   (3) Operation of this emission unit(s) or control equipment outside of those operating parameters specified in Permit Condition 5 in accordance to the schedule set forth in 567 IAC 24.1.
   (4) Per 567 IAC 25.1(6), the owner or operator of any facility required to install a continuous monitoring system or systems shall provide quarterly reports to the Director, no later than thirty (30) calendar days following the end of the calendar quarter, on forms provided by the Director.
   (5) Per 567 IAC 25.1(7), a written compliance demonstration report for each compliance testing event, whether successful or not, postmarked not later than six (6) weeks after the completion of the test period unless other regulations provide for other notification requirements. In that case, the more stringent reporting requirement shall be met.

C. All data, records, reports, documentation, construction plans, and calculations required under this permit shall be available at the plant during normal business hours for inspection and copying by federal, state, or local air pollution regulatory agencies and their authorized representatives, for a minimum of two (2) years from the date of recording unless otherwise required by another applicable law (i.e. NSPS, NESHAP, etc.)

D. Information regarding this permit should be sent to the attention of the following individuals based on the type of information being submitted: change in ownership (Air Quality Bureau Records Center), permit correspondence (Construction Permit Supervisor), stack testing correspondence (Stack Test Coordinator), and reports and notifications (Compliance Unit Supervisor and DNR Field Office). The addresses are:

Air Quality Bureau Iowa Department of Natural Resources 7900 Hickman Road, Suite 1 Windsor Heights, IA 50324 Telephone: (515) 725-9549 Fax: (515) 725-9502	**Field Office #3** 1900 North Grand Ave, Suite E17 Spencer, IA 51301 Phone: (712) 262-4177 Fax: (712) 262-2901

13. Appeal Rights

All conditions within an original permit may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. Amended conditions within a permit amendment may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

14. Permit History

Permit No.	Project No.	Description	Date	Stack Testing
07-A-071	06-607	Original Permit	01/25/07	Yes
07-A-071-S1	08-103	Increase Plant Capacity	06/17/08	Yes
07-A-071-S2	09-505	Change scrubber packing material	12/03/09	Yes
07-A-071-S3	10-596	Reduce testing frequency	11/17/10	Yes
07-A-071-S4	12-326	Amend operating limits/VOC limit	09/12/12	Yes
07-A-071-S5	14-199	Change HAP limits	07/18/14	Yes
07-A-071-S6	14-298	Modify Equipment List	09/24/14	Yes
07-A-071-S7	14-475	Amend stack height, diameter, exhaust temperature and flowrate	02/18/15	Yes

END OF PERMIT