PUBLIC NOTICE

The Iowa Department of Natural Resources (DNR) is proposing to renew the Title V Operating Permit for Climax Molybdenum Company. This facility is located at 2598 Highway 61, Fort Madison, IA 52627. DNR is currently reviewing an application for renewal submitted by Climax Molybdenum Company to operate their existing primary nonferrous metals (except aluminum) smelting and refining facility.

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

PM-2.5 (particulate matter 2.5 microns or less in diameter): 66.59 tons
PM-10 (particulate matter ten microns or less in diameter): 66.59 tons
Particulate Matter: 78.52 tons
Sulfur Dioxide: 462.75 tons
Nitrogen Oxides: 87.82 tons
Volatile Organic Compounds: 31.24 tons
Carbon Monoxide: 45.95 tons
Lead: 0.01 tons
Hazardous Air Pollutants: 0.97 tons

Based on the information provided in the Title V Operating Permit renewal application, the DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107.

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

FORT MADISON PUBLIC LIBRARY
1920 AVENUE E
FORT MADISON, IA 52627
Phone: 319-372-5721

These documents are also available on the Air Quality Bureau's website at:
www.iowadnr.gov/titlev-draft

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

DEREK WEDEMEIER
IOWA DEPARTMENT OF NATURAL RESOURCES - AIR QUALITY BUREAU
6200 PARK, STE #200
DES MOINES, IOWA 50321
Phone: (515) 725-9520
E-mail: Derek.Wedemeier@dnr.iowa.gov

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

The public comment period for the draft permit will run from June 18, 2026 through July 18, 2026. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown above. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.

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

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

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

Iowa Department of Natural Resources
DRAFT Title V Operating Permit
Name of Permitted Facility: Climax Molybdenum Company
Facility Location: 2598 Highway 61, Fort Madison, IA 52627
Air Quality Operating Permit Number: 03-TV-001R3
Expiration Date: **DATE**
Permit Renewal Application Deadline: **DATE**

EIQ Number: 92-0970
Facility File Number: 56-02-021

Responsible Official
Name: Dravin Mahes
Title: General Manager
Mailing Address: 2598 Highway 61, P.O. Box 220, Fort Madison, IA 52627
Phone #: (319) 463-7151

Permit Contact Person for the Facility
Name: David Caskey
Title: Environmental Plant Manager
Mailing Address: 2598 Highway 61, P.O. Box 220, Fort Madison, IA 52627
Phone #: (319) 463-2245

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

For the Director of the Department of Natural Resources

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Corey McCoid, Supervisor of Air Operating Permits Section Date

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Abbreviations

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

Pollutants
PM.....particulate matter
PM_{10} .....particulate matter ten microns or less in diameter
SO_2 .....sulfur dioxide
NOx.....nitrogen oxides
VOC .....volatile organic compound
CO .....carbon monoxide
HAP.....hazardous air pollutant

I. Facility Description and Equipment List

Facility Name: Climax Molybdenum Company
Permit Number: 03-TV-001R3

Facility Description: Industrial Inorganic Chemical Production (SIC 2819)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP1	R13	Sulfuric Acid Rail Loading	02-A-657-S1
EP2	R14	Sulfuric Acid Truck Loading	02-A-658
EP3	R2A	MoS_2 Fugitive Rail Unloading	NA
EP4	R3	Rail Car Thawing	NA
EP6	T1	Sulfuric Acid Storage Tank North	02-A-659-S1
EP7	T2	Sulfuric Acid Storage Tank South	02-A-660-S1
ST1	B1	Natural Gas Boiler #1	99-A-833-S1
ST2	B2	Natural Gas Boiler #2	99-A-834-S1
ST3	B3	Fire Pump Diesel Engine	99-A-835-S1
ST6	E1	MoO_3 Unload to Storage Bin from Bags & Barrels	74-A-223-S1
ST7	E2	Pure Oxide Product Screening & Packaging	75-A-016-S2
ST8	E3	ADM/PO Calciner #1	74-A-017-S10
	E3b	AMD/PO Calciner #2	
ST10	E7	AHM/ADM Dryer	78-A-053-S1
ST11	E8	NaMo/ADM/AOM, Drying, Screening, & Packaging	85-A-090-S1
	E9		
ST13	R1	MoS_2 Transfer from Receiving Pit to Storage Bin	75-A-256-S2
ST14	R2	Molybdenite Concentrate Unload (Track Hopper Building Dump Station)	75-A-257-S2
ST15	R4	MoO_3 Transfer from Roaster to Bin	75-A-255-S2
ST16	R5	MoS_2 Transfer from Storage to Roaster	75-A-259-S2
ST18	R8	Lime Dust Pneumatic Unload	75-A-015-S1
ST19	R9	Lime Transfer to Silo	75-A-258-S1
ST20, ST21 (Bypass)	R10	Roaster #1	95-A-273-S3
	R11	Roaster #2	
	R15	Roaster #1 Burner	
	R16	Roaster #2 Burner	
ST43	R15	Roaster #1 Burner	02-A-626-S2
ST51	R16	Roaster #2 Burner	02-A-627-S2
ST23	W2	Sublimed Oxide Furnace #1	95-A-279-S2
ST24	W8	Sublimed Oxide Furnace #2	95-A-280-S2

Equipment List Continued

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
ST25	W3	Molysulfide Kiln	94-A-001-S3
	W4	Molysulfide Kiln Afterburner	
ST26	W5	Molysulfide Kiln Burner	NA
ST27	W6	Molysulfide Kiln (Inert Gas Generator)	NA
ST28	W7	AOM Dryer	94-A-253-S2
ST31	R12	Sulfur Furnace Startup Burner	02-A-625-S2
ST32	E10	ADM Dryer	95-A-281
ST56	GEN9	Generator #9	11-A-097
ST57	GEN8	Generator #8	11-A-098
ST58	GEN7	Generator #7	11-A-099
ST59	GEN6	Generator #6	11-A-100
ST60	SX1	Rhenium Solvent Extraction A Train E1	01-A-998-S1
	SX2	Rhenium Solvent Extraction A Train E2	
	SX3	Rhenium Solvent Extraction B Train E1	
	SX4	Rhenium Solvent Extraction B Train E2	
	SX5	Rhenium Solvent Extraction S1	
	SX6	Rhenium Solvent Extraction S2	
	SX7	Rhenium Solvent Extraction Barren Organic Tank	
	SX8	Rhenium Solvent Loaded Organic Tank	
	SX9	Rhenium Solvent Extraction Raffinate Tank	
	SX10	Rhenium Solvent Extraction Loaded Solution Tank	
	NMLT	North Mother Liquid Tank (32,000 gallon)	NA
	SMLT	South Mother Liquid Tank (32,000 gallon)	NA
ST61	E13	AST Downgrade Dryer	14-A-503-S1
ST62	E14	Neutralization Reactor A	19-A-124-S1
ST63	E15	Neutralization Feed Tank	19-A-125
	NASH1	20K Tank	
	NASH2	NaHS Tank	
ST65	GEN10	Generator #10	20-A-054
ST66a		Generator #10 Crankcase	20-A-055
ST66b		Generator #10 Crankcase	20-A-056
ENG1	ENG1	Gasoline Engine for Roaster #1	NA
ENG2	ENG2	Gasoline Engine for Roaster #2	NA
ENG3	ENG3	Gasoline Engine for Roaster #1 Cooling Tower	NA
ENG4	ENG4	Gasoline Engine for Roaster #2 Cooling Tower	NA
GASTK	GASTK	Gasoline Storage Tank	NA

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
CT1	Acid Plant Cooling Tower
CT2	Utilities Cooling Tower #1
CT3	Utilities Cooling Tower #2
T7	MoS_2 Used Oil Tank (5,000 gallons) (0.012 psia)
NASH1	20,000 gallon Waste Tank (0.41 psia)
DT1	Utility Day Tank 1 (261 gallons) (0.012 psia)
DT2	Utility Day Tank 2 (261 gallons) (0.012 psia)
UO2	MoS_2 Used Oil Overflow Tank (1,200 gallons) (0.012 psia)
GDST1	Generator Diesel Storage Tank #1 (6,000 gallons) (0.012 psia)
GDST2	Generator Diesel Storage Tank #2 (6,000 gallons) (0.012 psia)
G1 – G5	Generator Diesel Belly Tanks (x5) (3,000 gallons) (0.012 psia)
GST1	Diesel Storage Tank #2 (564 gallons) (0.012 psia)
ADM1	ADM Bulk Bins
ADM2	ADM Bulk Packing
POC1	POC Bulk Bins
POC2	POC Bulk Packing
VAC1	Roaster In House Vacuum System
VAC2	POS Vacuum System
PNE1	POS Pneumatic System
FUR1	POS Furnace #1 Feed System
FUR2	POS Furnace #2 Feed System
POS1	Undensified Packing
POS2	POS Bulk Packing
TEC1	Tech Fine Milling #1
SUP1	Superfine Milling
SUP2	Superfine Packing
SUP3	Superfine #2 Expansion Dust Collector (Before Air Mills)
SUP4	Superfine #2 Expansion Product Collector
SUP5	Superfine #2 Expansion Dust Collector (After Air Mills)
TEC4	Tech Fine Packing
TEC2	Tech Fine Milling #2
TEC3	Tech Packing
VAC4	Molysulfide Vacuum System
VAC5	Chemical Plant Vacuum System
AOM1	Dry AOM Product Grinding
AOM2	Dry AOM Screw into Bin
AOM3	Wet AOM Rotary Dryer
AOM4	Wet AOM Rotary Dryer
AOM5	Wet AOM Grinder
AOM6	Wet AOM Feed System
NA1	NaMo Repack
PGNAA	PGNAA Analyzer Material Transfer System
DC-3	ADM/PO Calciner #3
DC-3b	ADM/PO Calciner #3 – Natural Gas Combustion
DC-3 CONVEY	ADM/PO Calciner #3 Conveyor System

Insignificant Emission Unit Number	Insignificant Emission Unit Description
F1	T7 - Product Recycle Bag Dump Station
F2	Roaster Recycle Dump Station for Furnace #1
F3	Roaster Recycle Dump Station for Furnace #2
F5	Undensified Overflow Supersack Reclaim
F6	Undensified Recycle Supersack Unloading Station
F7	Undensified Downtype for Furnace #1 Supersack Filling
F8	Undensified Downtype for Furnace #2 Supersack Filling
F9	North and South Filter Precoat Dump Station
F10	Supersack Dump Station into Tank T12
F12	Sulfuric Acid Filter Precoat Dump Station
F13	Silica Sand Transfer to POS Bed #1
F14	Silica Sand Transfer to POS Bed #2
F15	POS Blender Feeder Hopper
F16	NaMo Precoat Tank Dump Station
F17	Dry AOM Bag Dump Station
F18	Roaster #1 Hearth Dump Station
F19	Roaster #2 Hearth Dump Station
F20	NaMo Supersack Packing
F21	NaMo Drum Packing
F22	NaMo Valve Packing
F23	Wet AOM Packing
F24	Dry AOM Packing
F25	POS Furnace Dump Station
F26	POS Sand Hopper to Pneumatic System
F27	POS Repack Hopper
F29	MoS2 Bag Dump Station
F30	MoS2 Oversize from Screen 1
F31	MoS2 Oversize from Screen 2
F32	Oversize from POS Product Screen
F33	Oversize from POS Drum Line Shaker Screen
F34	Roaster Primary Bag Dump Station
F35	POS Tails Packing System
F36	Recycle Bag Dump Station to Packing Elevator #1
F37	Recycle Bag Dump Station to Packing Elevator #2
F38	Roaster #1 Hammermill Recycle Dump Station
F39	Roaster #2 Hammermill Recycle Dump Station
F40	Big Gulp Dump Station (fugitives)
F41	NaMo Adj. Tank Dump Station
F42	DC-1 Dump Station
F43	Wet AOM Wyssmont to Supersack Packing
FUG44	Dry Polymer Sack Hopper
PLO1	PLO Bin Vent
PLO2	PLO Handling Systems
LIM1	Lime Silo 4250-01-B
LIM2	Lime Slurry Tank
HT1	HT1 Reactor
MSD1	Mini Spray Dryer
DE1-BH	KDF Precoat Bag Dump Station - BH
DE1-FUG	KDF Precoat Bag Dump Station - FUG

Insignificant Emission Unit Number	Insignificant Emission Unit Description
PCOAT1-BH	BDF and LDF Precoat Dump Station - BH
PCOAT1-FUG	BDF and LDF Precoat Dump Station - FUG
HPF1	Harper Furnace
SULF1	Molten Sulfur Storage Tank 850-ton
SULF2	Molten Sulfur Storage Tank 50-ton
SULF3	Underground Sulfur Unloading Storage Pit 200-ton

II. Plant-Wide Conditions

Facility Name: Climax Molybdenum Company
Permit Number: 03-TV-001R3

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

Permit Duration

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

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

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

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

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

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

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from 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: Climax Molybdenum Company
Permit Number: **03-TV-001R3**

Emission Point ID Numbers: EP1 & EP2

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
EP1	R13	Sulfuric Acid Rail Loading	H_2SO_4	228 tons/hr.	02-A-657-S1
EP2	R14	Sulfuric Acid Truck Loading	H_2SO_4	45.9 tons/hr.	02-A-658

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(3)"e"

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Emission Point	Stack Height, (ft, from the ground)	Stack Opening (inches, dia.)	Exhaust Flow Rate (scfm)	Stack Temperature (ºF)	Discharge Type	Authority For Requirement
EP1	12*	8	Displacement	70	Vertical Unobstructed	02-A-657-S1
EP2	12	6	1,500	70	Vertical Obstructed	02-A-658

* There is no stack on this unit. Emissions are released from the top of the rail car with the air displaced during loading.

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP3

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
R2A	MoS_2 Fugitive Rail Unloading	MoS_2	100 ton/hr	NA

Applicable Requirements

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

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

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

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: EP4

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
R3	Rail Car Thawing	Natural Gas	3.28 MMBtu/hr.	NA

Applicable Requirements

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

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: EP6 & EP7

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Tank Capacity	Construction Permit
EP6	T1	Sulfuric Acid Storage Tank North	Sulfuric Acid	17 tons/hr 325,000 gal	02-A-659-S1
EP7	T2	Sulfuric Acid Storage Tank South	Sulfuric Acid	17 tons/hr 325,000 gal	02-A-660-S1

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 02-A-659-S1 & 02-A-660-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 02-A-659-S1 & 02-A-660-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permits 02-A-659-S1 & 02-A-660-S1
567 IAC 23.3(3)"e"

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

Stack Height, (ft, from the ground): 26
Stack Opening, (inches, dia.): 3
Exhaust Flow Rate (scfm): Displacement
Exhaust Temperature (°F): 70
Discharge Style: Downward
Authority for Requirement: DNR Construction Permits 02-A-659-S1 & 02-A-660-S1

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: ST1 & ST2

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
ST1	B1	Boiler #1	Natural Gas	34.5 MMBtu/hr.	99-A-833-S1
ST2	B2	Boiler #2	Natural Gas	34.5 MMBtu/hr.	99-A-834-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.5 lb/hr
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.6 lb/MMBtu
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 5.3 lb/hr
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1

Operational Limits & Reporting/Record keeping Requirements

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

Operational Limits:

A. The owner or operator shall only combust natural gas in Boiler #1 (EU B1) and Boiler #2 (EU B2).

Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 55
Stack Opening, (inches, dia.): 33.6
Exhaust Flow Rate (scfm): 6,800
Exhaust Temperature (°F): 560
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permits 99-A-833-S1 and 99-A-834-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST3

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
B3	Fire Pump Diesel Engine (200 hp, existing)	NA	Diesel	13.2 gal/hr	99-A-835-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 99-A-835-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.56 lb/hr
Authority for Requirement: DNR Construction Permit 99-A-835-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.56 lb/MMBtu
Authority for Requirement: DNR Construction Permit 99-A-835-S1
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.52 lb/hr, 2.5 lb/MMBtu
Authority for Requirement: DNR Construction Permit 99-A-835-S1
567 IAC 23.3(3)"b"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 7.98 lb/hr
Authority for Requirement: DNR Construction Permit 99-A-835-S1

Operational Limits & Reporting/Record keeping Requirements

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

1. The owner or operator shall operate this emission unit (EU B3) on diesel fuel only.
2. The sulfur content of the diesel fuel shall not to exceed 0.5% by weight.
3. The owner or operator shall not operate this emission unit (EU B3) more than 50 hours per year.
4. The owner or operator shall maintain the following records each time the engine is operated:
   a. the date;
   b. the number of hours that the engine operated;
   c. the type of fuel used;
   d. the sulfur content of the fuel used.
5. The owner or operator shall calculate and record total hours of operation for this emission unit (EU B3) on a rolling-12-month basis for each month of operation.
6. The owner or operator shall comply with all requirements in 40 CFR §63.6605(a) and 40 CFR §63.6605(b).
7. In accordance with 40 CFR §63.6603(a) and 40 CFR §63.6640:
   a. Change oil and filter every 500 hours of operation or 1 year +30 days of the previous change, whichever comes first;
   b. Inspect air cleaner every 1,000 hours of operation or 1 year +30 days of the previous inspection, whichever comes first, and replace as necessary; and
   c. Inspect all hoses and belts every 500 hours of operation or 1 year +30 days of the previous inspection, whichever comes first, and replace as necessary.
8. This engine is limited to operate as an emergency stationary internal combustion engine as defined in §63.6675 and in accordance with §63.6640(f). There is no time limit on the use of the engine in emergency situations provided that the annual hourly limit established in Condition 3 above is not exceeded.
   a. In accordance with §63.6640 (f)(2), the engine is limited to operate a maximum of 100 hours per year for maintenance checks and readiness testing.
   b. In accordance with §63.6640(f)(3), 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 for peak shaving or non-emergency demand response or to generate income for the facility to supply power to the electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity.
9. In accordance with 40 CFR §63.6625(f), you must install a non-resettable hour meter if one is not already installed.
10. In accordance with 40 CFR §63.6625(h), you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup.
11. The owner or operator shall maintain a record of operation and maintenance procedures performed on emission unit B3.

Authority for Requirements: DNR Construction Permit 99-A-835-S1
40 CFR 63 Subpart ZZZZ
567 IAC 23.1(4)"cz"

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

Stack Height, (ft, from the ground): 14.5
Stack Opening, (inches, dia.): 6
Exhaust Flow Rate (scfm): 400
Exhaust Temperature (°F): 450
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 99-A-835-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 either the temperature or flowrate above are different than the values stated, the owner or operator shall submit a request to the Department within thirty (30) days of the discovery to determine if a permit amendment is required or submit a permit application requesting to amend the permit.

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST6

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E1	MoO_3 Unload to Storage Bin from Bags & Barrels	CD1: Baghouse	MoO_3	12.5 tons/hr.	74-A-223-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 74-A-223-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.30 lb/hr.
Authority for Requirement: DNR Construction Permit 74-A-223-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.024 lb/ton, 0.18 tons/yr.
Authority for Requirement: DNR Construction Permit 74-A-223-S1
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

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

Process throughput:

1. The amount of material handled in this emissions unit shall not exceed 15,000 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse is accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions units (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.

Authority for Requirement: DNR Construction Permit 74-A-223-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 71.5
Stack Opening, (inches, dia.): 18
Exhaust Flow Rate (scfm): 1,800
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 74-A-223-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST7

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E2	Pure Oxide Product Screening and Packaging	CD2: Baghouse	AHM/ADM	2,104 lbs/hr	75-A-016-S2

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 75-A-016-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.35 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-016-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.71 lb/hr, 0.1 gr/scf
Authority for Requirement: DNR Construction Permit 75-A-016-S2
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

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

1. The owner or operator shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.
2. The owner or operator shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The owner or operator shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

4. The owner or operator shall not screen and package material containing Total Hazardous Air Pollutants (THAP) in excess of 0.10% by weight in this emission unit (EU E2).
5. The owner or operator shall maintain an inventory of THAP content, showing THAP content in units of percent by weight, for all materials screened and packaged in this emission unit (EU E2).

Authority for Requirement: DNR Construction Permit 75-A-016-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 73.5
Stack Opening, (inches, dia.): 24
Exhaust Flow Rate (scfm): 1,958
Exhaust Temperature (°F): 120
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-016-S2

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

Monitoring Requirements

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

Stack Testing:

Pollutant – Particulate Matter (PM)
Stack Test to be Completed by (date) – within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M Method 202
Authority for Requirement – 567 IAC 24.108(3)

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST8

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E3	ADM/PO Calciner #1[(1)]	CD3: Baghouse CD42: Ammonia Scrubber	ADM/MoO_3 Natural Gas	3,823 lb/hr 4.332 MMBtu/hr	74-A-017-S10
E3b	ADM/PO Calciner #2	CD3b: Baghouse CD42: Ammonia Scrubber	ADM/MoO_3	1,277 lb/hr 3.30 MMBtu/hr	

(1) See "Emission Point Characteristics" section below for total equipment list.

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 %[(2)]
Authority for Requirement: DNR Construction Permit 74-A-017-S10
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 2.44 lb/hr.
Authority for Requirement: DNR Construction Permit 74-A-017-S10

Pollutant: Particulate Matter (PM)
Emission Limit(s): 4.57 lb/hr. 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 74-A-017-S10
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 74-A-017-S10
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Record keeping Requirements

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

1. The ADM/PO Calciner #1 is limited to a maximum throughput of 80,880 pounds per day of Pure Molybdic Oxide (PO) calcined. The ADM/PO Calciner #2 is limited to a maximum

throughput of 30,648 pounds per day of Pure Molybdic Oxide (PO) calcined. On a daily basis, the owner or operator shall record the amount of PO calcined in each ADM/PO Calciner, in pounds, that day.

2. The Ammonia Scrubber (CE CD42) is not required to operate all the time when either ADM/PO Calciner #1 or ADM/PO Calciner #2 is in operation.
3. The owner or operator shall maintain the Ammonia Scrubber (CE CD42), Baghouse (CE CD3), and Baghouse (CE CD3b) according to the manufacturer's specifications and maintenance schedule. The owner or operator shall maintain a log of all maintenance and inspection activities performed on the Ammonia Scrubber (CE CD42), Baghouse (CE CD3), and Baghouse (CE CD3b). This log shall include, but is not necessarily limited to:
   a. The date and time any inspection and/or maintenance was performed on the Ammonia Scrubber (CE CD42), Baghouse (CE CD3), and Baghouse (CE CD3b);
   b. Any issues identified during the inspection and the date each issue was resolved;
   c. Any issues addressed during the maintenance activities and the date each issue was resolved; and
   d. Identification of the staff member performing the maintenance or inspection.
4. Per 567 IAC 33.3(18)"f"(1), prior to beginning actual construction of the project (Project Number 20-060) the owner or operator shall document and maintain a record of the following:
   a. A description of the project (Project Number 20-060),
   b. Identification of the emission unit(s) whose emissions of a regulated NSR pollutant could be affected by the project (Project Number 20-060), and
   c. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions (BAE), the projected actual emissions (PAE), the amount of emissions excluded under paragraph "3" of the definition of "projected actual emissions" in subrule 33.3(1), an explanation describing why such amount was excluded, and any netting analysis if applicable.
5. Per 567 IAC 33.3(18)"f"(4), the owner or operator shall:
   a. Monitor the emission of any regulated NSR pollutant that could increase as a result of the project that is emitted by any emissions unit identified in Condition 4b above.
   b. Calculate the annual emissions, in tons per year on a calendar-year basis, for a period of ten (10) years following resumption of regular operations and maintain a record of regular operations after the change.
6. Per 567 IAC 33.3(18)"f"(5), the owner or operator shall retain a written record containing the information required in Condition 5. above for a period of ten (10) years after the project (Project Number 20-060) is completed.
7. Per 567 IAC 33.3(18)"g", the owner or operator shall make the information required to be documented and maintained pursuant to 567 IAC 33.3(18)"f" available for review upon request for inspection by the Department or the general public pursuant to the requirements for Title V operating permits contained in 567 IAC 24.107(6).

Authority for Requirement: DNR Construction Permit 74-A-017-S10

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

Stack Height, (ft, from the ground): 111
Stack Opening, (inches, dia.): 30
Exhaust Flow Rate (scfm): 16,200
Exhaust Temperature (°F): 250
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 74-A-017-S10

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

Emission Unit ID	Emission Unit Description	Maximum Rated Capacity
EU T-3	Ammonia Dissolution Tank	7,800 gallons
EU T-4	Adjustment Tank	7,800 gallons
EU T-5	Adjustment Tank	7,800 gallons
EU T-6	Crystallizer Feed Tank	7,800 gallons
EU NaMo Adjustment	Solution Tank	6,135 gallons
EU 20K	Solution Tank	14,000 gallons
EU CR-5 feed	Solution Tank	6,135 gallons
EU T-20	ML Tank	800 gallons
EU GML	ML Bulk Storage Tank	6,135 gallons
EU CR-5 Dump	Solution Tank	6,135 gallons
EU BDF	Drum Filter	400 gallons
EU T-13	Neutralization Tank	11,000 gallons
EU T-9	Aqua Ammonia Storage Tank	5,500 gallons
EU T-7	Solution Tank	6,135 gallons
EU Sump	Intermediate Solution / Slurry Tank	5,000 gallons
EU T-12	Ammonia Dissolution Tank	6,135 gallons
EU CR-2	Crystallizer (Tank)	6,135 gallons
EU LDF	Drum Filter	300 gallons
EU Mud Tank	Slurry Tank	5,500 gallons
EU T-3C	Ammonia Dissolution Tank / Filter Feed Tank	10,000 gallons
EU KDF Feed	Drum Filter Feed Tank	800 gallons
EU KD Filter	Drum Filter	200 gallons
EU Sep	Slurry Tank	9,000 gallons
EU SPBT	Solution Tank	18,000 gallons
EU NPBT	Solution Tank	18,000 gallons
EU V-1	Coalesence Tank	100 gallons
EU CE-5 Hopper	Centrifuge Discharge / Dryer Feed Hopper	200 cfm
EU CE-5	Centrifuge #5	200 cfm
EU CE-2 Hopper	Centrifuge Discharge / Dryer Feed Hopper	200 cfm
EU CE-2	Centrifuge #2	200 cfm

Emission Unit ID	Emission Unit Description	Maximum Rated Capacity
EU AHM Dryer Hood	Fugitive Fume Collection	200 cfm
EU T-3B	Ammonia Dissolution Tank	10,000 gallons
EU H1 Tank	Slurry Tank	800 gallons
EU Hoesch 1 Filter	Pressure Plate Filter	200 cfm
EU Hoesch 2 Filter	Pressure Plate Filter	200 cfm

These units may vent through EP ST8 while the facility is conducting maintenance on the AER System (EP ST67). Under normal operating conditions, these units will vent through the AER System (EP ST67)

Monitoring Requirements

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

Stack Testing:

Pollutant – PM_{10}
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance
Test Method - 40 CFR 51, Appendix M, 201A with 202
Authority for Requirement - 567 IAC 24.108(3)

Stack Testing:

Pollutant - PM
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 24.108(3)

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

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

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

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐
(Required for CD3 only, located in Appendix B)

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST10

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E7	AHM/ADM Dryer	CD4: Baghouse	AHM/ADM	2,200 lbs/hr	78-A-053-S1

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 78-A-053-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.27 lb/hr
Authority for Requirement: DNR Construction Permit 78-A-053-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.25 lb/ton, 0.23 tons/yr.
Authority for Requirement: DNR Construction Permit 78-A-053-S1
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material dried in this emissions unit shall not exceed 1,830 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse is accordance with the recommendations of the manufacturer.

Reporting & Record keeping:
1. The permittee shall maintain the following monthly records:
   a. The amount of material dried in this emissions units (tons); and
   b. The rolling 12-month total amount of material dried in this emissions unit (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's

recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.

Authority for Requirement: DNR Construction Permit 78-A-053-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 74
Stack Opening, (inches, dia.): 17
Exhaust Flow Rate (scfm): 1,606
Exhaust Temperature (°F): 200
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 78-A-053-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST11

Associated Equipment

Emission Units	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E8 & E9	NaMo/ADM/AOM, Drying, Screening, & Packaging	CD5: Baghouse	NaMo/ADM/AOM, Natural Gas	600 lbs/hr, 0.4 MMBtu/hr.	85-A-090-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 85-A-090-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.21 lb/hr.
Authority for Requirement: DNR Construction Permit 85-A-090-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.70 lb/ton, 0.66 tons/yr.
Authority for Requirement: DNR Construction Permit 85-A-090-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 85-A-090-S1
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Record keeping Requirements

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

Process throughput:

1. The amount of material dried in these emissions units shall not exceed 1,900 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material dried in these emissions units (tons); and
   b. The rolling 12-month total amount of material dried in these emissions units (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.

Authority for Requirement: DNR Construction Permit 85-A-090-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 57
Stack Opening, (inches, dia.): 8
Exhaust Flow Rate (scfm): 1,239
Exhaust Temperature (°F): 160
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 85-A-090-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST13

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R1	MoS_2 Transfer from Receiving Pit to Storage Bin	CD6: Baghouse	MoS_2	90 tons/hr	75-A-256-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 75-A-256-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.86 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-256-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.01 lb/ton, 0.21 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-256-S2
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material handled in this emissions unit shall not exceed 41,000 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 75-A-256-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 93
Stack Opening, (inches, dia.): 16
Exhaust Flow Rate (scfm): 5,000
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-256-S2

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST14

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R2	Molybdenite Concentrate Unload (Track Hopper Building Dump Station)	CD7: Baghouse	MoS_2	100 tons/hr	75-A-257-S2

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 75-A-257-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 3.0 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-257-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.03 lb/ton, 0.62 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-257-S2
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

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

Process throughput:

1. The amount of material handled in this emissions unit shall not exceed 41,000 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).

2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 75-A-257-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 63.5
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): 5,342
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-256-S2

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST15

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R4	MoO_3 Transfer from Roaster to Bin	CD8: Baghouse	MoO_3	5 tons/hr	75-A-255-S2

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 75-A-255-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.89 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-255-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.18 lb/ton, 3.15 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-255-S2
567 IAC 23.3(2)"a"

Operational Limits & Reporting/Record keeping Requirements

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

Process throughput:

1. The amount of material handled in this emissions unit shall not exceed 35,000 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).

2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 75-A-255-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 99
Stack Opening, (inches, dia.): 16
Exhaust Flow Rate (scfm): 3,537
Exhaust Temperature (°F): 150
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-255-S2

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

Monitoring Requirements

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

Stack Testing:

Pollutant – Particulate Matter (PM)
Stack Test to be Completed by (date) – within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M Method 202
Authority for Requirement – 567 IAC 24.108(3)

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST16

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R5	MoS_2 Transfer from Storage to Roaster	CD9: Baghouse	MoS_2	90 tons/hr	75-A-259-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 75-A-259-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.89 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-259-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.021 lb/ton, 0.43 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-259-S2
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material handled in this emissions unit shall not exceed 41,000 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 75-A-259-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 99
Stack Opening, (inches, dia.): 16
Exhaust Flow Rate (scfm): 5,039
Exhaust Temperature (°F): 100
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-259-S2

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST18

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R8	Lime Dust Pneumatic Unload	CD11: Baghouse	Limestone	5 tons/hr	75-A-015-S1

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: DNR Construction Permit 75-A-015-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.6 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-015-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.25 lb/hr, 0.25 lb/ton, 0.14 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-015-S1
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material handled in this emissions unit shall not exceed 1,100 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:
1. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and
   b. The rolling 12-month total amount of material handled in this emissions unit (tons).
2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's

recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.

Authority for Requirement: DNR Construction Permit 75-A-015-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 42.5
Stack Opening, (inches): 22 x 32
Exhaust Flow Rate (scfm): 500
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-015-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST19

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R9	Lime Transfer to Silo	CD12: Baghouse	Limestone	20 tons/hr	75-A-258-S1

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: DNR Construction Permit 75-A-258-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 2.5 lb/hr.
Authority for Requirement: DNR Construction Permit 75-A-258-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 5 lb/hr., 0.25 lb/ton, 0.23 tons/yr.
Authority for Requirement: DNR Construction Permit 75-A-258-S1
567 IAC 23.3(2)"a"

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

Process throughput:
1. The filling of the storage silo (EU R9) is limited to a maximum of 15 hours per day, between the hours of 6 AM and 9 PM.
2. The amount of material handled in this emissions unit shall not exceed 1,850 tons in any rolling 12 month period.
3. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.

Reporting & Record keeping:
1. The permittee shall maintain daily records on the number of hours that storage silo (EU R9) is filled. This shall include the time(s) of day during which the silo was filled. This daily recordkeeping is only required on the days when the silo is filled.
2. The permittee shall maintain the following monthly records:
   a. The amount of material handled in this emissions unit (tons); and

b. The rolling 12-month total amount of material handled in this emissions unit (tons).

3. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.

Authority for Requirement: DNR Construction Permit 75-A-258-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 42.5
Stack Opening, (inches): 22 x 32
Exhaust Flow Rate (scfm): 500
Exhaust Temperature (°F): 70
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 75-A-258-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: ST20

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R10	Roaster #1	CD13: Sulfuric Acid Plant	MoS_2	5,000 lb/hr of MoS_2	95-A-273-S3
R11	Roaster #2		MoS_2	5,000 lb/hr of MoS_2	
R15	Roaster #1 Burner		Natural Gas	19.124 MMBtu/hr.	
R16	Roaster #2 Burner		Natural Gas	19.124 MMBtu/hr.	

Maximum production rate of the Acid Plant is 17.08 tons of sulfuric acid (H_2SO_4) per hour.

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 95-A-273-S3
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 5.63 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-273-S3

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 5.63 lb/hr
Authority for Requirement: DNR Construction Permit 95-A-273-S3
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 105 lb/hr, 500 ppm_v[(2)]
Authority for Requirement: DNR Construction Permit 95-A-273-S3
567 IAC 23.3(3)"e"

[(2)]The standard is 500 parts per million, based on volume (ppm_v), but does not apply to devices which have been installed for air pollution abatement purposes where it is demonstrated by the owner of the source that the ambient air quality standards are not being exceeded.

Pollutant: Sulfuric Acid Mist (SAM, H_2SO_4)
Emission Limit(s): 5.63 lb/hr.
Authority for Requirement: DNR Construction Permit 95-A-273-S3

Operational Limits & Reporting/Record keeping Requirements

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

1. In accordance with Paragraph 1 of Section V (Order) of ACO No. 2024-AQ-15 (August 23, 2024), the owner or operator shall comply with the approved Operation & Maintenance Plan for the Acid Plant attached to the ACO as Attachment B. The owner or operator shall:
   a. operate the Acid Plant (CE CD13) in accordance with the approved Operation & Maintenance Plan for the Acid Plant (CE CD13). Prior to instituting any changes to the approved Operation & Maintenance Plan, the owner or operator shall:
      i. submit a copy of the revised Operation & Maintenance Plan for the Acid Plant with the proposed changes to the Air Quality Bureau Compliance Section 30 days prior to instituting any changes.
      ii. the owner or operator may institute any change to the Operation & Maintenance Plan upon receipt of written approval of proposed changes to the Operation & Maintenance Plan for the Acid Plant (CE CD13) from the Department.
   b. monitor and record all parameters (i.e. SO_2 concentration, SO_2 lb/hr, SO_2 – lb/ton of sulfuric acid produced, inlet acid temperature and acid strength of Absorption Tower #2, etc.) outlined in the Operation & Maintenance Plan for the Acid Plant (CE CD13).
   c. maintain a record of any instances where the Acid Plant (CE CD13) operates outside of the normal operating ranges in the Operation & Maintenance Plan for the Acid Plant.
   d. maintain a record of actions taken under Section 5 (Contingency Plan) of the Operation & Maintenance Plan for the Acid Plant when the Acid Plant (CE CD13) operates outside of the normal operating ranges listed in the Operation & Maintenance Plan for the Acid Plant.
   e. in addition to Condition 3 below, inspect and maintain the Acid Plant (CE CD13) in accordance with the Preventative Maintenance Schedule outlined in the Operation & Maintenance Plan for the Acid Plant.
   f. maintain a record of all inspections, maintenance activities, and any actions resulting from the inspection or maintenance of the Acid Plant (CE CD13).
2. In accordance with Paragraph 2 of Section V (Order) of ACO No. 2024-AQ-15-S1 (June 25, 2025), the owner or operator shall install, certify, and operate a permanent SO_2 continuous emissions monitoring system (CEMS) and flow meter on EP ST20 that is capable of measuring SO_2 on a mass basis (lb/hr or lb/ton).
3. The owner or operator shall:
   a. operate, inspect, and maintain the control equipment (CE CD13) according to manufacturer's specifications and
   b. maintain a record of all inspections, maintenance activities, and any actions resulting from the inspection or maintenance of the control equipment (CE CD13) and the monitoring devices.

4. In accordance with Paragraph 4 of Section V (Order) of ACO No. 2024-AQ-15 (August 23, 2024), the owner or operator shall comply with the provisions of 567 IAC 21.8(1), which requires the maintenance and operation of equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions and which requires that the facility remedy any cause of excess emissions in an expeditious manner.

Authority for Requirement: DNR Construction Permit 95-A-273-S3
ACO 2024-AQ-15

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 150
Stack Opening, (inches, dia.): 66
Exhaust Flow Rate (scfm): 37,700
Exhaust Temperature (°F): 180
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 95-A-273-S3

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

Monitoring Requirements

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

Continuous Monitoring Systems:
The following continuous monitoring system requirements apply to this emission point and its associated emission units and control equipment for all non-Consent Decree emission limits:

1. The following monitoring systems are required:
   a. SO_2:
      In accordance with Condition 2 of Operational Limits & Reporting/Record keeping Requirements, the owner or operator shall install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) and record the output of the system, for measuring SO_2 emissions and record the output of the system.
      The system shall be designed to meet the 40 CFR 60, Appendix B, Performance Specification 2 (PS2) and Performance Specification 6 (PS6) requirements. The specifications of 40 CFR 60, Appendix F (Quality Assurance/Quality Control) shall apply. Appendix F requirements shall be supplemented with a notice to the Department with the dates of the annual relative accuracy test audit.
   b. Flowmeter:
      In accordance with Condition 2 of Operational Limits & Reporting/Record keeping Requirements, the owner or operator shall install, certify, operate, and maintain a continuous flow rate monitoring system meeting the requirements of 40 CFR 60, Appendix B, Performance Specification 6 and 40 CFR 60, Appendix F, Procedure 1.

In addition, the owner or operator shall record the output of the system, for measuring the volumetric flow rate of exhaust gases discharged to the atmosphere.

2. The CEMS required in Condition 1. above for SO_2 shall be operated and the data recorded during all periods of operation including periods of startup, shutdown, malfunction or emergency conditions.
3. The following data requirements shall apply for emission standards in this permit:
   a. The SO_2 CEMS required by this permit shall be operated and data recorded during all periods of operation of the emission units.
   b. The 1-hour average SO_2 emission rates measured by the SO_2 CEMS required by Condition 1 shall be used to calculate compliance with the applicable SO_2 emission standards of this permit. At least 2 data points must be used to calculate each 1-hour average.
   c. For each hour of missing SO_2 emission data, the owner or operator shall substitute data by:
      i. If the monitor data availability is equal to or greater than 95.0% (on a quarterly basis), the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
         1) For a missing data period less than or equal to 24 hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
         2) For a missing data period greater than 24 hours, substitute the greater of:
            a) The 90^{th} percentile hourly concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
            b) The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
      ii. If the monitor data availability is at least 90.0% but less than 95.0% (on a quarterly basis), the owner or operator shall calculate substitute data by means of the automated data acquisition and handling system for each hour of each missing data period according to the following procedures:
         1) For a missing data period of less than or equal to eight hours, substitute the average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
         2) For the missing data period of more than eight hours, substitute the greater of:
            a) The 95^{th} percentile hourly pollutant concentration recorded by a pollutant concentration monitor during the previous 720 quality-assured monitor operating hours; or
            b) The average of the hourly concentrations recorded by a pollutant concentration monitor for the hour before and the hour after the missing data period.
      iii. If the monitor data availability is less than 90.0% (on a quarterly basis), the owner or operator shall obtain actual emission data by an alternate testing or monitoring method approved by the Department.
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.

5. The owner or operator shall provide continuous monitor quarterly reports to the director, no later than 30 calendar days following the end of the calendar quarter, on forms provided by the director that meet the requirements of 567 IAC 21.10(6).

Authority for Requirement: DNR Construction Permit 95-A-273-S3

Stack Testing Requirement

Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
PM – State	Yes	One-time	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51, Appendix M Method 202
PM_{10}	Yes[(1)]	One-time	1 hour	40 CFR 51, Appendix M, 201A with 202

[(1)]The owner or operator may elect to use the test results from the total particulate matter test (PM – State) as demonstration of compliance with its PM_{10} emission limits.

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

Authority for Requirement: DNR Construction Permit 95-A-273-S3

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: ST21 (Emergency Bypass)

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
R10	Roaster #1	MoS_2	5,000 lb/hr (12 hearths)	NA
R11	Roaster #2	MoS_2	5,000 lb/hr (12 hearths)	
R15	Roaster #1 Burner	Natural Gas	19.124 MMBtu/hr.	
R16	Roaster #2 Burner	Natural Gas	19.124 MMBtu/hr.	

Applicable Requirements

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

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

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

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

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

1. In accordance with a January 27, 1998 determination, if the owner or operator uses EP ST21 five or more times in a calendar year, the owner or operator is required to obtain an Air Quality Construction Permit for EP ST21 and its associated emissions units. Each time EP ST21 is used, the owner or operator shall record:
   a. the date (month, day, and year) EP ST21 was used,
   b. the time the use of EP ST21 began,
   c. the time the use of EP ST21 ended,
   d. the reason(s) for the use of EP ST21,
   e. the calculations estimating the total emissions during the event,
   f. any work practices utilized to minimize emissions, and
   g. the total number of events for each calendar year.
2. If EP ST21 is used five or more times in a calendar year, the owner or operator shall submit an Air Quality Construction Permit application within 90 days of triggering the permit requirement. The application shall request a permit for EP ST21 and its associated

emission units
Authority for Requirement: DNR Construction Permit 95-A-273-S3

Monitoring Requirements

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

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

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

Emission Point ID Numbers: ST43 & ST51 (Preheater Stacks)

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
ST43	R15	Roaster #1 Burner	Natural Gas	19.124 MMBtu/hr.	02-A-626-S2
ST51	R16	Roaster #2 Burner	Natural Gas	19.124 MMBtu/hr.	02-A-627-S2

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permits 02-A-626-S2 & 02-A-627-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 02-A-626-S2 & 02-A-627-S2
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppm_v
Authority for Requirement: DNR Construction Permits 02-A-626-S2 & 02-A-627-S2
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Record keeping Requirements

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

1. The Roaster #1 Burner (EU R15) and the Roaster #2 Burner (EU R16) shall be limited to firing on natural gas.
2. The Roaster #1 Burner (EU R15) shall vent to EP ST43 only during preheating of Ore Roaster #1 (EU R10).
3. The Roaster #2 Burner (EU R16) shall vent to EP ST51 only during preheating of Ore Roaster #2 (EU R11).
4. The Roaster #1 Burner (EU R15) shall not vent through EP ST43 more than 720 hours per rolling 12-month period. The owner or operator shall record the following:
   a. The date and total time (in hours) Roaster #1 Burner (EU R15) vents through EP

ST43,
   b. The monthly total time (in hours) Roaster #1 Burner (EU R15) vents through EP ST43 for each month of operation, and
   c. The annual total time (in hours) Roaster #1 Burner (EU R15) vents through EP ST43 on a rolling 12-month basis, for each month of operation.
5. The Roaster #2 Burner (EU R16) shall not vent through EP ST51 more than 720 hours per rolling 12-month period. The owner or operator shall record the following:
   d. The date and total time (in hours) Roaster #2 Burner (EU R16) vents through EP ST51,
   e. The monthly total time (in hours) Roaster #2 Burner (EU R16) vents through EP ST51 for each month of operation, and
   f. The annual total time (in hours) Roaster #2 Burner (EU R16) vents through EP ST51 on a rolling 12-month basis, for each month of operation.

Authority for Requirement: DNR Construction Permits 02-A-626-S2 & 02-A-627-S2

Emission Point Characteristics[(1)]

These emission points shall conform to the specifications listed below.

Each Roaster Burner (EU R15 & EU R16) is made of of the following equipment:

Hearth	Number of Burners	Maximum Rated Capacity
1	2	890,000 BTU/hr (each)
1	4	764,000 BTU/hr (each)
2	2	365,000 BTU/hr (each)
4	2	365,000 BTU/hr (each)
6	2	365,000 BTU/hr (each)
8	2	365,000 BTU/hr (each)
9	4	365,000 BTU/hr (each)
10	2	365,000 BTU/hr (each)
10	4	704,000 BTU/hr (each)
11	2	704,000 BTU/hr (each)
11	4	704,000 BTU/hr (each)
12	4	704,000 BTU/hr (each)

Stack Height, (ft, from the ground): 99
Stack Opening, (inches, dia.): 36
Exhaust Flow Rate (scfm): 650
Exhaust Temperature (°F): 1,000
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permits 02-A-626-S2 & 02-A-627-S2

[(1)] Each stack is used only during the preheating or Ore Roaster #1 and Ore Roaster #2

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST23

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W2	Sublimed Oxide Furnace #1	CD19: Baghouse	MoO_3	1,520 lbs/hr	95-A-279-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: DNR Construction Permit 95-A-279-S2
567 IAC 23.3(2)"d"
(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.70 lb/hr.
Authority for Requirement: DNR Construction Permit 95-A-279-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf, 0.92 lb/ton, 1.1 tons/yr.
Authority for Requirement: DNR Construction Permit 95-A-279-S2
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material processed in this emissions unit shall not exceed 2,400 tons in any rolling 12 month period.

Control equipment parameters:
1. The permittee shall follow the specific startup and shutdown procedures provided by the baghouse vendor and shall maintain a record of periods of startup, shutdown or malfunction.
2. Dust collected in the baghouse shall be discharged only into closed containers without creating additional air emissions.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material processed in this emissions units (tons); and
   b. The rolling 12-month total amount of material processed in this emissions unit (tons).
2. The permittee shall perform routine monitoring and routine maintenance according to the vendor's specifications. A log of actual inspections, observations, and maintenance shall be made available to the Iowa DNR personnel upon request.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 95-A-279-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50
Stack Opening, (inches): 24 x 22
Exhaust Flow Rate (scfm): 4,729
Exhaust Temperature (°F): 160
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 95-A-279-S2

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

Monitoring Requirements

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

Stack Testing:

Pollutant - PM
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 24.108(3)

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

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

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

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

Emission Point ID Numbers: ST24

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W8	Sublimed Oxide Furnace #2	CD20: Baghouse	MoO_3	1,520 lbs/hr	95-A-280-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: DNR Construction Permit 95-A-280-S2
567 IAC 23.3(2)"d"
(1) An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit(s): 1.0 lb/hr.
Authority for Requirement: DNR Construction Permit 95-A-280-S2

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf, 1.97 lb/ton, 2.4 tons/yr.
Authority for Requirement: DNR Construction Permit 95-A-280-S2
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material processed in this emissions unit shall not exceed 2,400 tons in any rolling 12 month period.

Control equipment parameters:
1. The permittee shall follow the specific startup and shutdown procedures provided by the baghouse vendor and shall maintain a record of periods of startup, shutdown or malfunction.
2. Dust collected in the baghouse shall be discharged only into closed containers without creating additional air emissions.

Reporting & Record keeping:

1. The permittee shall maintain the following monthly records:
   a. The amount of material processed in this emissions units (tons); and
   b. The rolling 12-month total amount of material processed in this emissions unit (tons).
2. The permittee shall perform routine monitoring and routine maintenance according to the vendor's specifications. A log of actual inspections, observations, and maintenance shall be made available to the Iowa DNR personnel upon request.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 95-A-280-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50
Stack Opening, (inches): 24 x 22
Exhaust Flow Rate (scfm): 5,708
Exhaust Temperature (°F): 125
Discharge Style: Horizontal
Authority for Requirement: DNR Construction Permit 95-A-280-S2

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

Monitoring Requirements

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

Stack Testing:

Pollutant - PM
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 24.108(3)

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

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

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

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

Emission Point ID Number: ST25

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W3	Molysulfide Kiln	See Emission Point Characteristics	MoS_2	0.82 tons/hr.	94-A-001-S3
W4	Molysulfide Kiln Afterburner		Natural Gas	3.1 MMBtu/hr.	

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 94-A-001-S3
567 IAC 23.3(2)"d"

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

Pollutant: PM_{10}
Emission Limit(s): 0.38 lb/hr
Authority for Requirement: DNR Construction Permit 94-A-001-S3

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf, 0.38 lb/hr
Authority for Requirement: DNR Construction Permit 94-A-001-S3
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.38 lb/hr
Authority for Requirement: DNR Construction Permit 94-A-001-S3

Operational Limits & Reporting/Record keeping Requirements

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

Control equipment parameters:

1. The owner or operator shall maintain the control equipment according to manufacturer's specifications and maintenance schedule or per written facility specific operation and maintenance plan.

Reporting & Record keeping:
1. The owner or operator shall maintain a record of all inspections/maintenance and any action resulting from the inspection/maintenance of the control equipment.

Authority for Requirement: DNR Construction Permit 94-A-001-S3

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 69
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): 1,910
Exhaust Temperature (°F): 95
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 94-A-001-S3

The following emission units exhaust through this emission point:

Emission Unit	Control Equipment
Molysulfide Kiln (W3)	Settling Pots (CD 41)
	Electrostatic Precipitator (CD 15) and Electrostatic Precipitator (CD 39) – both operating in parallel
	Afterburner (W4)
	Cooler (CD 42) or Cooler (CD 43) – only one operating at a time
	Baghouse (CD 16) or Baghouse (CD 40) – only one operating at a time
	Caustic Scrubber (CD 17)
Molysulfide Kiln Afterburner (W4)	Cooler (CD 42) or Cooler (CD 43) – only one operating at a time
	Baghouse (CD 16) or Baghouse (CD 40) – only one operating at a time
	Caustic Scrubber (CD 17)

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

Monitoring Requirements

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

Stack Testing:

Pollutant – PM_{10}
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance Test Method - 40 CFR 51, Appendix M, 201A with 202
Authority for Requirement - 567 IAC 24.108(3)

Stack Testing:

Pollutant - PM
Stack Test to be Completed by (date) - *DATE* within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51 Appendix M Method 202
Authority for Requirement - 567 IAC 24.108(3)

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

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

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

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐
(Required for CD 15, CD 39, & CD 17 See Appendix B)

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST26

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W5	Molysulfide Kiln Burner	NA	Natural Gas	0.8 MMBtu/hr.	NA

Applicable Requirements

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

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

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST27

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
W6	Molysulfide Kiln (Inert Gas Generator)	Natural Gas	0.47 MMBtu/hr.	NA

Applicable Requirements

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

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

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST28

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W7	AOM Dryer	CD18: Baghouse	AOM	680 lbs/hr	94-A-253-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permit 94-A-253-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.16 lb/hr
Authority for Requirement: DNR Construction Permit 94-A-253-S2

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/scf, 0.47 lb/ton, 0.28 ton/yr.
Authority for Requirement: DNR Construction Permit 94-A-253-S2
567 IAC 23.3(2)"a"

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

Process throughput:
1. The amount of material dried in this emissions unit shall not exceed 1,200 tons in any rolling 12 month period.
2. The permittee shall operate and maintain the fabric filter baghouse is accordance with the recommendations of the manufacturer.

Reporting & Record keeping:
1. The permittee shall maintain the following monthly records:
   a. The amount of material dried in this emissions units (tons); and
   b. The rolling 12-month total amount of material dried in this emissions unit (tons).

2. The permittee shall develop and follow an operation and maintenance plan in order to maintain the fabric filter baghouse. The plan shall include the manufacturer's recommendations. Records shall be maintained of the inspections performed and the maintenance work done on the baghouse.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). At a minimum the permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 94-A-253-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 71
Stack Opening, (inches, dia.): 12
Exhaust Flow Rate (scfm): 4,140
Exhaust Temperature (°F): 180
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 94-A-253-S2

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST31

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
R12	Sulfur Furnace Startup Burner	Natural Gas	25 MMBtu/hr	02-A-625-S2

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: DNR Construction Permit 02-A-625-S2
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 02-A-625-S2
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: DNR Construction Permit 02-A-625-S2
567 IAC 23.3(3)"b"(2)

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

1. This unit shall not operate more than 150 hours per twelve month rolling period.
2. This unit shall only combust natural gas as fuel.
3. The owner or operator shall maintain a record of the number of hours this unit operates, for each instance of operation.
4. The owner or operator shall update the twelve-month rolling total hours of operation on a monthly basis.

Authority for Requirement: DNR Construction Permit 02-A-625-S2

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

Stack Height, (ft, from the ground): 41
Stack Opening, (inches, dia.): 12
Exhaust Flow Rate (scfm): 15,120
Exhaust Temperature (°F): 900
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 02-A-625-S2

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST32

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E10	ADM Dryer	CD22: Baghouse	ADM	1.32 tons/hr.	95-A-281

Applicable Requirements

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

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

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.019 gr/scf, 0.26 lb/hr, 1.14 ton/yr
Authority for Requirement: DNR Construction Permit 95-A-281

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

Control equipment parameters:
1. The owner shall follow the specific startup and shutdown procedures provided by the baghouse vendor and shall maintain a record of periods of startup, shutdown or malfunction.
2. Dust collected in the baghouse shall be discharged only into closed containers without creating additional air emissions.

Reporting & Record keeping:
1. The owner shall perform routine monitoring and routine maintenance according to vendor's specifications. A log of actual inspections, observations, and maintenance shall be made available to the IDNR personnel upon request.

Authority for Requirement: DNR Construction Permit 95-A-281

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

Stack Height, (ft, from the ground): 76
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (acfm): 2,000
Exhaust Temperature (°F): 200
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 95-A-281

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

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

Stack Testing:

Pollutant – Particulate Matter (PM)
Stack Test to be Completed by (date) – within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M Method 202
Authority for Requirement – 567 IAC 24.108(3)

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: ST56, ST57, ST58, ST59

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
ST56	GEN9	Generator #9	#2 Diesel Fuel Oil	138 gal/hr. (2937 bhp)	11-A-097
ST57	GEN8	Generator #8	#2 Diesel Fuel Oil	138 gal/hr. (2937 bhp)	11-A-098
ST58	GEN7	Generator #7	#2 Diesel Fuel Oil	138 gal/hr. (2937 bhp)	11-A-099
ST59	GEN6	Generator #6	#2 Diesel Fuel Oil	138 gal/hr. (2937 bhp)	11-A-100

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40%[(1),(2)]
Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 1.21 lb/hr., 0.76 tons/yr.[(3)]
Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100

Pollutant: Particulate Matter (PM)
Emission Limit(s): 1.21 lb/hr., 0.76 tons/yr.[(3)]
Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 34.2 lb/hr., 21.6 tons/yr.[(3)]
Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100

[(2)] See "NSPS/NESHAP Requirements" in the Operating Limits section.
[(3)] Combined limit for EU-GEN6, EU-GEN7, EU-GEN8, & EU-GEN9

Operational Limits & Reporting/Record keeping Requirements

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

Process throughput:

1. These engines are limited to burning diesel fuel oil only.
2. The total amount of fuel burned in engines EU GEN6, EU GEN7, EU GEN8, and EU GEN9 shall not exceed 174,000 gallons in any rolling 12-month period.
3. In accordance with §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 1090.305 for nonroad diesel fuel:
   a. a maximum sulfur content of 15 ppm (0.0015%) by weight; and
   b. a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume.
4. In accordance with §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the manufacturer. The owner or operator may only change engine settings that are permitted by the manufacturer.

Reporting & Record keeping:

1. The owner or operator shall maintain the following monthly records on engines EU GEN6, EU GEN7, EU GEN8, and EU GEN9:
   a. the total amount of fuel oil burned (gallons); and
   b. the rolling 12-month total amount of the fuel oil burned (gallons).
2. The owner or operator of the engine shall comply with the requirements of condition 3 of the Process Throughput section listed above by one of the following methods:
   a. have the fuel supplier certify that the fuel delivered meets the definition of nonroad diesel fuel as defined in 40 CFR 1090.305;
   b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
   c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.

NSPS/NESHAP Requirements: (Each engine shall comply with the following requirements)

1. These engines are subject to 40 CFR Part 60 NSPS Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (IAC 23.1(2)"yyy"). Each engine is a 2010 model year stationary internal combustion engine.
   a. In accordance with §60.4211(c), each engine must be certified by its manufacturer to comply with the emissions standards from §60.4204 (b) and §60.4201 (a). The emission standards that each engine must be certified by the manufacturer to meet are:

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

[1] Non-methane hydrocarbon

b. In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. Each engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4204 (b) and §60.4201 (a) is required.

2. Each engine is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (567 IAC 23.1(4)"cz", 40 CFR Part 63, Subpart ZZZZ). These engines are new reciprocating internal combustion engines (RICE). In accordance with §63.6590 (c), each engine must comply with the requirements of Subpart ZZZZ by meeting the requirements of NSPS subpart IIII.

Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII
567 IAC 23.1(4)"cz"
40 CFR 63 Subpart ZZZZ

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

Stack Height, (ft, from the ground): 17.1
Stack Opening, (inches, dia.): 16
Exhaust Flow Rate (scfm): 6,687
Exhaust Temperature (°F): 752
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permits 11-A-097, 11-A-098, 11-A-099, 11-A-100

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

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST60

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
SX1	Rhenium Solvent Extraction A Train E1	NA	Weak Acid/ Organic Solution	1185.6 lb/hr	01-A-998-S1
SX2	Rhenium Solvent Extraction A Train E2		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX3	Rhenium Solvent Extraction B Train E1		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX4	Rhenium Solvent Extraction B Train E2		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX5	Rhenium Solvent Extraction S1		Weak Acid/ Organic Solution	157.8 lb/hr	
SX6	Rhenium Solvent Extraction S2		Weak Acid/ Organic Solution	157.8 lb/hr	
SX7	Rhenium Solvent Extraction Barren Organic Tank		Weak Acid/ Organic Solution	1,000 gallons	
SX8	Rhenium Solvent Loaded Organic Tank		Weak Acid/ Organic Solution	1,000 gallons	
SX9	Rhenium Solvent Extraction Raffinate Tank		Weak Acid/ Organic Solution	1,000 gallons	
SX10	Rhenium Solvent Extraction Loaded Solution Tank		Weak Acid/ Organic Solution	1,000 gallons	

Applicable Requirements

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

There are no applicable emission limits for this emission point at this time.

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

Stack Height, (ft, from the ground): 62
Stack Opening, (inches, dia.): 4
Exhaust Flow Rate (scfm): 200
Exhaust Temperature (°F): 90
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 01-A-998-S1

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST61

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E13	AST Downgrade Dryer	CE-41: Baghouse	Molybdenum Compounds/ Natural Gas	10,400 lbs/hr./ 4.0 MMBtu	14-A-503-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permit 14-A-503-S1
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.65 lb/hr.
Authority for Requirement: DNR Construction Permit 14-A-503-S1

Pollutant: Particulate Matter (PM) State
Emission Limit(s): 0.65 lb/hr., 0.1 gr/dscf
Authority for Requirement: DNR Construction Permit 14-A-503-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppm
Authority for Requirement: DNR Construction Permit 14-A-503-S1
567 IAC 23.3(3)"e"

Operational Limits & Reporting/Record keeping Requirements

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

Control equipment parameters:

1. The permittee shall operate and maintain the fabric filter baghouse in accordance with the recommendations of the manufacturer.
2. The differential pressure drop across the fabric filter baghouse shall be maintained between 2 and 6 inches water column while the equipment is in operation.

Reporting & Record keeping:

1. The permittee shall maintain records on the maintenance performed on the fabric filter baghouse.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a weekly basis.

Authority for Requirement: DNR Construction Permit 14-A-503-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 65
Stack Opening, (inches, dia.): 32
Exhaust Flow Rate (scfm): 4,000
Exhaust Temperature (°F): 200
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 14-A-503-S1

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

Monitoring Requirements

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

Stack Testing:

Pollutant – Particulate Matter (PM)
Stack Test to be Completed by (date) – within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 5
40 CFR 51, Appendix M Method 202
Authority for Requirement – 567 IAC 24.108(3)

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

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐
(See Appendix B for CAM Plan)
Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST62

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E14	Neutralization Reactor A	Dry Scrubber 1 (CD44) Dry Scrubber 2 (CD45)	Wastewater	3,000 gal, 2,400 gal/hr	19-A-124-S1

Applicable Requirements

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

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permit 19-A-124-S1
567 IAC 23.3(2)"d"

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

Pollutant: Hydrogen Sulfide (H_2S)
Emission Limit(s): 0.0053 lb/hr
Authority for Requirement: DNR Construction Permit 19-A-124-S1

Operational Limits, Monitoring & Recordkeeping Requirements

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

1. The owner or operator shall inspect, replace or regenerate the carbon bed in the Dry Scrubbers (CEs CD44 and CD45) per manufacturer's specifications.
2. The owner or operator shall keep records of control equipment inspections and maintenance, including the dates of all carbon bed replacements or regenerations.

Authority for Requirement: DNR Construction Permit 19-A-124-S1

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

Stack Height, (ft, from the ground): 28
Stack Opening, (inches, dia.): 2
Exhaust Flow Rate (scfm): 100
Exhaust Temperature (°F): 70
Discharge Style: Downward
Authority for Requirement: DNR Construction Permit 19-A-124-S1

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

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

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

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

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

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

The data pertaining to the plan shall be maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST63

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E15	Neutralization Feed Tank	Packed Bed Scrubber (CD46) and Dry Scrubber 3 (CD47), Or Sulfuric Acid Plant (CD13)	Wastewater	3,150 gal, 2,400 gal/hr	19-A-125
NASH1	20K Tank			20,000 gal, 2,400 gal/hr	
NASH2	NaHS Tank			1,500 gal, 2,400 gal/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 19-A-125
567 IAC 23.3(2)"d"

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

Pollutant: Hydrogen Sulfide (H_2S)
Emission Limit(s): 0.35 lb/hr, 600 ppm[(2)]
Authority for Requirement: DNR Construction Permit 19-A-125
[(2)] During bypass of control equipment only.

Operational Limits & Reporting/Record keeping Requirements

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

1. The owner or operator shall inspect and maintain the control equipment according to manufacturer's specifications.
2. The owner or operator shall keep records of control equipment inspections and maintenance, including the dates of all carbon bed replacements or regenerations.
3. The pressure drop of the Wet Scrubber (CE CD46) shall be maintained between 1.0 and 12.0 inches water.
4. The owner or operator shall record the weekly pressure drop measurements of the Wet Scrubber (CE CD46), and any actions taken in response to a pressure drop outside the limit.
5. These emission units (EUs E15, NASH1 and NASH2) may be operated bypassing the control equipment for a maximum of 500 hours per twelve month rolling period.

6. The owner or operator shall keep records of the start time and date, end time and date of all times the emission units are operated bypassing the control equipment, and update the twelve month rolling total hours of uncontrolled operation on a monthly basis.
7. The owner or operator shall take inlet wastewater samples and test for H_2S concentration (in ppm) a minimum of once per week each time the equipment (EUs E15, NASH1 and NASH2) is operated without any control for more than 48 hours.
8. The sampling required in Requirement 7 is waived, if four consecutive inlet water samples, taken when the plant is operating at 90% or higher capacity and with a minimum of 3 months between samples, each demonstrate a concentration less than 300 ppm H_2S. Records of the results (in ppm H_2S), date, and percent capacity the plant was operating at during the sampling, shall be kept available for inspection.

Authority for Requirement: DNR Construction Permit 19-A-125

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50
Stack Opening, (inches, dia.): 6
Exhaust Flow Rate (scfm): 350
Exhaust Temperature (°F): 135
Discharge Style: Vertical Unobstructed
Authority for Requirement: DNR Construction Permit 19-A-125

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

Monitoring Requirements

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

Stack Testing:

Pollutant – Hydrogen Sulfide (H_2S)
Stack Test to be Completed by (date) – within 2 years of permit issuance
Test Method - 40 CFR 60, Appendix A, Method 15
Authority for Requirement – 567 IAC 24.108(3)

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

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒
Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒
Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: ST65, ST66A, and ST66B

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
GEN10	Generator 10 and Crankcase	Diesel	2937 BHP	20-A-054, 20-A-055, 20-A-056

Applicable Requirements

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

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter (PM) - Federal
Emission Limit(s): 0.20 grams/kW-hr
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Particulate Matter (PM) - State
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter (PM_{10})
Emission Limit(s): 0.20 grams/kW-hr
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lbs/MMBtu
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.3(3)"b"(2)

Pollutant: Nitrogen Oxides (NOx)
Emission Limit(s): 6.4 grams/kW-hr
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 3.5 grams/kW-hr
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

NSPS and NESHAP Requirements

New Source Performance Standards (NSPS):

The following subparts apply to the emission unit(s) in this permit:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Gen10	A	General Provisions	NA	23.1(2)	§60.1 – §60.19
	IIII	Stationary Compression Ignition Internal Combustion Engine	Non-Emergency Engine	23.1(2)"yyy"	§60.4200 – §60.4219

In accordance with §60.4211(b)(1), the engine must be certified by its manufacturer to comply with the emissions standards for non-emergency engines from 40 CFR Part 89. The engine is certified to Tier 2 standards. The emission standards the engine must be certified by the manufacturer to meet are:

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

In accordance with §60.4211(c), the owner or operator must comply with the required NSPS emissions standards by purchasing an engine certified by its manufacturer to meet the applicable emission standards for the same model year and engine power. The engine must be installed and configured to the manufacturer's specifications. Provided these requirements are satisfied, no further demonstration of compliance with the emission standards from §60.4205 (b) and §60.4202 (a)(2) is required. However, if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, a compliance demonstration is required in accordance with §60.4211(g).
Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(2)"yyy"
40 CFR 60 Subpart IIII

National Emission Standards for Hazardous Air Pollutants (NESHAP):

The following subparts apply to this emission(s) unit in this permit:

EU ID	Subpart	Title	Type	State Reference (567 IAC)	Federal Reference (40 CFR)
Gen10	A	General Provisions	NA	23.1(4)	§63.1 – §63.15
	ZZZZ	Stationary Reciprocating Internal Combustion Engines	New Non Emergency Engine	23.1(4)"cz"	§63.6580 – §63.6675

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 Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(4)"cz"
40 CFR 63 Subpart ZZZZ

Operational Limits & Reporting/Record keeping Requirements

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

1. This engine is limited to using 43,500 gallons of fuel oil 2 in any rolling 12-month period.
2. The owner or operator shall maintain the following monthly records:
   a. the amount of fuel used in Generator 10 (EU-GEN10)
   b. calculate the 12-month rolling total of fuel oil 2 used in Generator 10 (EU-GEN10)
3. In accordance with §60.4207(b), the diesel fuel oil burned in this engine shall meet the following specifications from 40 CFR 1090.305 for nonroad diesel fuel:

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

   The owner or operator of the engine shall comply with these requirements listed above by one of the following methods:
   a. have the fuel supplier certify the fuel delivered meets the definition of nonroad diesel fuel as defined in 40 CFR 1090.305;
   b. obtain a fuel analysis from the supplier showing the sulfur content and cetane index or aromatic content of the fuel delivered; or
   c. perform an analysis of the fuel to determine the sulfur content and cetane index or aromatic content of the fuel received.
4. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in §60.4211(g).
5. In accordance with §60.4211(a), this engine shall be operated and maintained in accordance with the manufacturer's emission-related written instructions. The owner or operator may only change emission-related engine settings that are permitted by the manufacturer.

Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056
567 IAC 23.1(4)"cz"
40 CFR 63 Subpart ZZZZ

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

EP ID	Stack Height, Feet	Discharge Style	Stack Opening, inches	Stack Temperature, °F	Exhaust Flowrate, SCFM
ST65	17	Vertical, Unobstructed	16	750	6,687
ST66a	4	Horizontal	2	130	49
ST66b	4	Horizontal	2	130	49

Authority for Requirement: DNR Construction Permits 20-A-054, 20-A-055, 20-A-056

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Numbers: ENG1, ENG2, ENG3, ENG4

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
ENG1	ENG1	Gasoline Engine for Roaster #1	Gasoline	37 hp	NA
ENG2	ENG2	Gasoline Engine for Roaster #2	Gasoline	37 hp	NA
ENG3	ENG3	Gasoline Engine for Roaster #1 Cooling Tower	Gasoline	30 hp	NA
ENG4	ENG4	Gasoline Engine for Roaster #2 Cooling Tower	Gasoline	65.9 hp	NA

Applicable Requirements

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

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

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

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

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

NESHAP:
These engines are subject to 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). According to 40 CFR 63.6590(a)(1)(iii) these spark ignition engines, located at an area source, are existing stationary RICE as it was constructed prior to June 12, 2006.

Compliance Date
Per 63.6595(a)(1) you must comply with the provisions of subpart ZZZZ that are applicable by October 19, 2013.

Operation and Maintenance Requirements 40 CFR 63.6603, 63.6625, 63.6640 and Tables 2d and 6 to Subpart ZZZZ

1. Change oil and filter every 1,440 hours of operation or 1 year +30 days of the previous change, whichever comes first. (See 63.6625(j) for the oil analysis option to extend time frame of requirements.)
2. Inspect spark plugs every 1,440 hours of operation or 1 year +30 days of the previous inspection, whichever comes first, and replace as necessary.
3. Inspect all hoses and belts every 1,440 hours of operation or 1 year +30 days of the previous inspection, whichever comes first, and replace as necessary.
4. Operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
5. Minimize the engines' time spent at idle during startup and minimize the engines' startup time to a period needed for appropriate and safe loading of the engines, not to exceed 30 minutes.

Notification, Reporting and Recordkeeping Requirements

1. An initial notification is not required in pursuant to 40 CFR 63.6645(a)(5).
2. You must comply with the applicable reporting requirements in pursuant to 40 CFR 63.6640(b).
3. You must comply with the applicable recordkeeping requirements in pursuant to 40 CFR 63.6655 and 40 CFR 63.6660, including keeping records for at least 5 years.

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

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

Emission Point ID Number: GASTK

Associated Equipment

Emission Unit	Emission Unit Description	Raw Material	Rated Capacity	Construction Permit
GASTK	Gasoline Tank	Gasoline	500 gallons	NA

Applicable Requirements

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

There are no applicable emission limits for this emission point at this time.

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

NESHAP:
The tank is subject to 40 CFR 63 Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities. According to 40 CFR 63.11111(d) this storage tank, located at an area source, is an existing storage tank as it was constructed prior to November 9, 2006.

§63.11115 What are my general duties to minimize emissions?
Each owner or operator of an affected source under this subpart must comply with the requirements of paragraphs (a) and (b) of this section.
(a) You must, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
(b) You must keep applicable records as specified in §63.11125(d).

§63.11116 Requirements for facilities with monthly throughput of less than 10,000 gallons of gasoline.
(a) You must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

(1) Minimize gasoline spills;
(2) Clean up spills as expeditiously as practicable;
(3) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

(4) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

(b) You are not required to submit notifications or reports as specified in §63.11125, §63.11126, or subpart A of this part, but you must have records available within 24 hours of a request by the Administrator to document your gasoline throughput.

(c) You must comply with the requirements of this subpart by the applicable dates specified in §63.11113.

(d) Portable gasoline containers that meet the requirements of 40 CFR part 59, subpart F, are considered acceptable for compliance with paragraph (a)(3) of this section.

§63.11125 What are my recordkeeping requirements?

(d) Each owner or operator of an affected source under this subpart shall keep records as specified in paragraphs (d)(1) and (2) of this section.

(1) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

(2) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

Authority for Requirement: 46 CFR 63 Subpart CCCCCC
567 IAC 23.1(4)"ec"

Monitoring Requirements

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

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

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

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

Authority for Requirement: 567 IAC 24.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code (IAC). When 567 IAC as amended May 15, 2024, and cited in this permit becomes State Implementation Plan (SIP) approved, it will supersede 567 IAC as amended February 8, 2023. Prior to May 15, 2024, all Title V rule citations in this Title V permit were found and cited in 567 IAC Chapter 22. During the period from May 15, 2024, to the date that 567 IAC as amended May 15, 2024, is approved into the SIP, both 567 IAC as amended May 15, 2024, and 567 IAC as amended February 8, 2023 form the legal basis for the applicable requirements included in this permit. A crosswalk showing the citation changes is attached to this permit in Appendix E.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 24.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 24.105(2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 24.108(1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 24.108(14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 24.108(9)"b"*
6. For applicable requirements with which the permittee is in compliance, the permittee shall continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. *567 IAC 24.108(15)"c"*

G2. Permit Expiration

1. Except as provided in rule 567—24.104(455B), permit expiration terminates a source's right to operate unless a timely and complete application for renewal has been submitted in accordance with rule 567—24.105(455B). *567 IAC 24.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall submit on forms or electronic format specified by the Department. Additional copies to local programs or EPA are not required for application materials submitted through the electronic format specified by the Department. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 24.105(2). *567 IAC 24.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 24.107(4)*

G4. Annual Compliance Certification
By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 24.108(15)"e"*

G5. Semi-Annual Monitoring Report
By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 24.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 24.108 (5)*

G6. Annual Fee
1. The permittee is required under subrule 567 IAC 24.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The emissions inventory shall be submitted annually by March 31 with forms specified by the department documenting actual emissions for the previous calendar year.
4. The fee shall be submitted annually by July 1 with forms specified by the department.
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 24.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges
Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 24.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 24.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 21.8(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.
3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:
    a. Comply with all terms and conditions of this permit specific to each alternative scenario.
    b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 24.108(4), 567 IAC 24.108(12)*

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

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 24;

b. Compliance test methods specified in 567 Chapter 21; or

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

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

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

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

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

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 24.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 725-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to

determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 21.10(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 21.10(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required initial reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

vi. The steps that were taken to limit the excess emission.

vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 21.7(1)-567 IAC 21.7(4)*

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 24.108(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 24.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 24.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);

c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);

d. The changes are not subject to any requirement under Title IV of the Act (revisions affecting Title IV permitting are addressed in rules 567—24.140(455B) through 567 - 24.144(455B));.

e. The changes comply with all applicable requirements.

f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,

ii. The date on which the change will occur,

iii. Any change in emission as a result of that change,

iv. The pollutants emitted subject to the emissions trade

v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 24.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 24.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 24.110(1). *567 IAC 24.110(3)*

4. The permit shield provided in subrule 24.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 24.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 24.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that does any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility,

coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Title V Permit Modification.

a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:

i. Do not violate any applicable requirement;

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;

iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification under rule 567 - 24.113(455B).

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;

ii. The permittee's suggested draft permit;

iii. Certification by a responsible official, pursuant to 567 IAC 24.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 24.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 24.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 24, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 24.111-567 IAC 24.113*

G19. Duty to Obtain Construction Permits

Unless exempted in 567 IAC 22.1(2) or to meet the parameters established in 567 IAC 22.1(1)"c", the permittee shall not construct, install, reconstruct or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, or conditional permit, or permit pursuant to rule 567 IAC 22.8, or permits required pursuant to rules 567 IAC 22.4, 567 IAC 22.5, 567 IAC 31.3, and 567 IAC 33.3 as required in 567 IAC 22.1(1). A permit shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source or anaerobic lagoon. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations (*567 IAC 23.1(3)"a");* training fires and controlled burning of a demolished building *(567 IAC 23.2).*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as provided in 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"j"; 567 IAC 23.2(3)"j" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 24.108(7)*

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

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

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

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

c. The form of the label bearing the required warning statement must comply with the

requirements pursuant to § 82.110.

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

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

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

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

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

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

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

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

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

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

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

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 24.108(9)"c"*

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

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

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original

permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 24.108(17)"a", 567 IAC 24.108(17)"b"*

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

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

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

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

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

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 24.114*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 24.114*

5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 24.114*

G25. Permit Shield

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

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

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

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

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

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

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 24.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 24.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 24.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought consistent with the requirements of 567 IAC 24.111(1). *567 IAC 24.111 (1)"d"*

G29. Disclaimer

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

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

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with applicable requirements of 567 – Chapter 23 or a permit condition. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. If the owner or operator does not provide timely notice to the department, the department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with applicable rules or permit conditions. Upon written request, the department may allow a notification period of less than 30 days. At the department’s request, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. A testing protocol shall be submitted to the department no later than 15 days before the owner or operator conducts the compliance demonstration. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks (42 days) of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

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

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 343-6589

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.
567 IAC 21.10(7)"a", 567 IAC 21.10(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.
567 IAC 26.1(1)

G32. Contacts List

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

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

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

Chief, Air Quality Bureau
Iowa Department of Natural Resources
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 313-8325

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

Field Office 1
1101 Commercial Court, Suite 10
Manchester, IA 52057
(563) 927-2640

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

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

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

Field Office 5
6200 Park Ave
Suite 200
Des Moines, IA 50321
(515) 725-0268

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

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

Linn County Public Health
Air Quality Branch
1020 6th Street SE
Cedar Rapids, IA 52401
(319) 892-6000

V. Appendix A: NSPS and NESHAP Links

40 CFR 60 Subpart A – General Provisions
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-A

40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-IIII

40 CFR 63 Subpart A – General Provisions
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-A

40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-ZZZZ

40 CFR 63 Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-63/subpart-CCCCCC

Appendix B: CAM Plans

Baghouse CAM Plan

Emission Points: ST8, ST23, ST24, ST25, & ST61

Monitoring Approach

A. Indicator
Daily visible emission readings and weekly pressure drop checks will be used as indicators.

B. Measurement Approach

A trained employee familiar with normal process operations and the appearance of the exhaust from each source is responsible for observing and reading visible emissions at the specified frequency.

The pressure drop of each baghouse will be checked weekly to ensure that the pressure drop does not fall outside of the normal operating ranges stated in the facility Operation and Maintenance plans.

C. Indicator Range
The presence of and visible emissions would be considered an excursion and trigger the operator to take corrective actions.

The facility shall keep records of the normal operating pressure drop range based on manufacturer's information, recent performance tests, and engineering analysis.

Where a pressure drop range is specified in the Emission Point Specific Conditions section of this permit, this pressure drop range shall be used as the normal operating pressure drop range.

Pressure drop should not fall outside of the normal operating range.

D. QIP (Quality Improvement Plan) Threshold
The QIP threshold is six excursions in a six month reporting period

E. Performance criteria

Data representativeness: Pressure drop outside of the Indicator Range would indicate a decrease in the performance of the baghouse and potentially indicate an increase of particulate emissions.

The presence of any visible emissions from a properly maintained and operating baghouse is an appropriate indicator that a bag rupture or leak is occurring and that corrective action is necessary.

QA/QC practices and criteria: The facility shall check the pressure drop weekly when the emission unit on this emission point is in operation. If a pressure drop outside the Indicator Range is observed, corrective action will be taken within 8 hours.

Employees performing visible emissions observations are trained on observing the source under the appropriate conditions (e.g. lighting, sun position, etc,) and have a detailed understanding of the proper operation of the affected sources The records of the emissions observations are periodically reviewed by the facility environmental coordinator to verify that the notations are being kept properly.

Monitoring frequency and Data collection procedure: The Weekly Baghouse Inspection Log is maintained electronically in an Operations Excel spreadsheet. The contents of the spreadsheet include control device number, the stack number, differential pressure, and record of any visible emissions. Records of pressure drop readings and visible emission readings will be maintained for five years.

CAM Plan for CD13 Sulfuric Acid Plant

Emission Point ST20

Monitoring Approach

A. Indicator
#2 Absorption Tower Inlet Acid Temperature – minimum 165 degrees Fahrenheit and maximum 195 degrees Fahrenheit.

#2 Absorption Tower Acid Strength – 98.2% to 98.7%

B. Calibration
Calibrations are performed in house by maintenance staff.

C. Record keeping & Reporting
Daily Emission System Log maintained electronically in PI System (record temperature, differential pressure, and acid strength readings four (4) times per hour and hourly average).

If hourly averages are outside of range
Immediately investigate to find the reason for the excursion. Corrective action will be taken within 8 hours to return to the normal operating range.

D. Performance Criteria

Verification of operational status:	Records of #2 Absorption Tower Inlet Acid Temperature and #2 Absorption Tower Acid Strength will be maintained for five years.
QA/QC practices and criteria:	The facility shall check the #2 Absorption Tower Inlet Acid Temperature and #2 Absorption Tower acid Strength four (4) times per hour averaged hourly when the emission unit on this emission point is in operation.
Monitoring frequency and Data Collection procedure:	Records of the readings shall be maintained for five years.

CAM Plan for Electrostatic Precipitators (ESP) CD15, CD39

Emission Point ST25

I. Background

The MoS_2 precipitators are unique in that they were specifically designed for Climax. These precipitator do not accumulate dust so there is no dust buildup and no plate alignment either. It has a single wire centered in a tube. These units do not have a hopper because the oil drops down into drums mounted at the bottom of the tubes. Instead of a penthouse, there are compartments that house the high voltage insulators. There are no rappers associated with these units.

A Emission Unit

Description:	Emission Point ST25: Molysulfide (MoS_2) Kiln
Identification:	Emission Unit: W3
	Control Equipment: CD15 (Electrostatic Precipitator)
	CD39 (Electrostatic Precipitator)
	Control Equipment Manufacturer: Bilirck Inc. (CD15)
	GE (CD39)
	Control Equipment Installation Date: May 1994 (CD15)
	July 2008 (CD39)
Facility:	Climax Molybdenum Company
	Plant Number 56-02-021

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No: Iowa DNR Construction Permit 94-A-001-S3
567 IAC 23.3(2)"a", 567 IAC 23.3(2)"d"

Emission Limit or Standard: 0.1 gr/scf PM; 0.38 lb/hr PM10; 40% opacity

C. Equipment

The equipment is located at the Molysulfide plant. It is an electrostatic precipitator which removes particulate from the gas stream after the baghouse.

II. Monitoring Approach

A. General Monitoring Guidelines

1. CAM involves the observation of control equipment compliance indicators: voltage and amperage to the precipitator. This plan defines acceptable ranges for these indicators. CAM also includes monitoring and control equipment maintenance and inspections. Maintenance and inspections that will facilitate consistent monitoring and control equipment operations are identified in this plan.
2. Voltage and amperage monitoring is not required during periods of time greater than one day in which the source does not operate. Voltage and amperage are monitored continuously in the facility's PI system.

B. Compliance Indicator Ranges

An excursion is defined as:

1. Opacity: greater than 0%, with the exception of start-up, shutdown and cleaning.
2. Primary voltage at or below 20V for greater than two hours
3. Primary amperage at or above 20 Amps for greater than two hours

C. Excursion from Compliance Indicators

1. An excursion occurs when an observed compliance indicator is outside of its defined acceptable indicator range. An excursion does not necessarily indicate a violation of applicable permit terms, conditions, and/or requirements. However, an excursion is a deviation that must be reported in the Semi-Annual Monitoring Report and Annual Compliance Certification Report.
2. Corrective actions will begin as soon as possible, but no later than eight hours from the observation of the excursion. Abnormal conditions discovered through equipment inspection and maintenance requires implementation of remediation within a reasonable timeframe.
3. Opacity shall be observed on a weekly basis to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed, corrective actions will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective actions do not return the compliance indicator to its defined acceptable indicator range, then a Method 9 observation will be required. If weather conditions prevent the observer from conducting an opacity observation, the observer will note such conditions on the data observation sheet. At least three attempts will be made to retake the opacity readings at approximately 2-hr intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.
4. Report monitoring or other deviations (operating conditions, emission limits, or reporting requirements) in IDNR Semi-annual Monitoring and Annual Compliance Certification reports.

D. Measurement Approach

1. Opacity shall be observed using EPA Method 22.

2. Primary voltage and amperage will be measured and displayed on visual readouts and recorded electronically on the facility's PI system.

III. Quality Improvement Plan

A Quality Improvement Plan (QIP) will be required to submit to the IDNR if an accumulation of excursions of either the opacity indicator or the power indicator exceeds 5 percent of the ESP's normal operating time for a 6-month reporting period. All the requirements in 40 CFR 64.8(b) shall be fulfilled if a QIP plan is required.

IV. Quality Assurance/Quality Control

A. Monitoring Methods

Daily

Check the control on PI system.

Weekly

Opacity readings.

Monthly

1. Remove and clean the wires and weights.
2. Clean the compartments that house the high voltage insulators.
3. Check fluid level of the Transformer-Rectifier (TR) set.

B. Audible ESP Malfunction Alarm

1. If the primary current is over 20 Amps or primary voltage is under 20 Volts an audible alarm from SQ300 will occur. If secondary current is over 75 MA or secondary voltage is under 15 KV and audible alarm from SQ300 will occur.
2. Corrective actions will be implemented upon the occurrence of a malfunction alarm if the primary current or voltage is outside the compliance indicator range for more than two hours.

C. Data Collection Procedures

Facility PI system automatically records monitoring readings and observations.

D. Record Keeping and Reporting (Verification of Operational Status)

1. The voltages and amps are displayed on the main control panel for the ESP and on the facility's PI system. Voltage or amperage readings outside of recent normal operating ranges could indicate a decrease in the performance of the ESP and potentially an increase in particulate emissions.
2. Opacity reports and supporting data will be kept for five years.
3. Records of all planned unit outage inspections and any actions resulting from these inspections will be kept for five years.
4. All excursions will be reported in semi-annual monitoring reports and annual compliance certifications.

CAM Plan for CD17 Scrubber

Emission Point ST25

Monitoring Approach

A. Indicator
pH $\geq$ 6 (1 hour average)

B. Calibration
Calibration of the pH monitor is completed on a monthly basis

C. Record Keeping & Reporting
The highest 1 hour average pH reading in a 24-hour period shall be recorded electronically in the PI system.

Preventative maintenance and required maintenance, including gauge calibration are initiated through maintenance work order system (Ellipse).

A. If indicators being monitored are outside of their range
Immediately investigate to find the reason for the excursion. Corrective action will be taken within 8 hours to return the point that was out of normal range to normal.

Evaluate the situation for remedies.

Take necessary action to return the item to its indicator range.

The QIP threshold is six excursions in a six month reporting period

Appendix C: Consent Order 2024-AQ-15-S1 and Operation and Maintenance Plan

Administrative Consent Orders

Administrative Consent Orders (ACO)
2024-AQ-15 and 2024-AQ-15-S1

IOWA DEPARTMENT OF NATURAL RESOURCES

AMENDMENT TO

ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF:	AMENDMENT TO
CLIMAX MOLYBDENUM COMPANY	ADMINISTRATIVE CONSENT ORDER
	NO. 2024-AQ-15 - S1

To:

Climax Molybdenum Company
David Caskey
Environmental Manager
P.O. Box 220
2958 Highway 61
Fort Madison, Iowa 52627

Climax Molybdenum Company
Todd Weaver
Sr. Counsel – Environmental
Freeport-McMoran Copper & Gold, Inc.
333 North Central Avenue
Phoenix, Arizona 85004

The Iowa Department of Natural Resources and Climax Molybdenum Company agree to the following amendment to Administrative Consent Order No. 2024-AQ-15.

1. Section V, Order, paragraph 2 is revised as follows:

Within 180 days of the date this Administrative Consent Order is signed by the director, Climax Molybdenum Company shall install, certify and operate a permanent SO2 CEMs monitoring system and flow meter on the EP ST20 stack, that is capable of measuring SO2 on a mass basis (lb/hr or lb/ton).

2. In all other respects, Administrative Consent Order No. 2024-AQ-15 remains in full force and effect.

Kayla Lyon

Digitally signed by Kayla Lyon
Date: 2025.06.25 13:46:59 -05'00'

Kayla Lyon, Director
Iowa Department of Natural Resources

Douglas N. Currault II, Executive Vice President
Climax Molybdenum Company

Dated this 25th day of June, 2025.

DNR Field Office 2

IOWA DEPARTMENT OF NATURAL RESOURCES

ADMINISTRATIVE CONSENT ORDER

IN THE MATTER OF: CLIMAX MOLYBDENUM COMPANY	ADMINISTRATIVE CONSENT ORDER NO. 2024-AQ-15

To: Climax Molybdenum Company
David Caskey, Environmental Manager
2598 Highway 61
Fort Madison, Iowa 52627

Climax Molybdenum Company
Registered Agent
Registered Agency Solutions, Inc.
400 East Court Avenue
Des Moines, Iowa 50209

Climax Molybdenum Company
David Caskey, Environmental Manager
P.O. Box 220
Fort Madison, Iowa 52627

Climax Molybdenum Company
Todd Weaver
Sr. Counsel – Environmental,
Freeport-McMoRan Copper & Gold, Inc.
333 N Central Avenue
Phoenix, Arizona 85004

I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and Climax Molybdenum Company (Climax Molybdenum) for the purpose of resolving air quality violations. In the interest of avoiding litigation, the parties have agreed to the provisions below.

Any questions regarding this administrative consent order should be directed to:

Relating to technical requirements:
Lucas Tenborg
Iowa Department of Natural Resources
6200 Park Avenue
Suite 200
Des Moines, Iowa 50321
Phone: 515-443-9508

Relating to legal requirements:
Anne Preziosi, Attorney for the DNR
Iowa Department of Natural Resources
6200 Park Avenue
Suite 200
Des Moines, Iowa 50321
Phone: 515-238-3429

Payment of penalty to:
Director of the Iowa DNR
6200 Park Avenue

Suite 200
Des Moines, Iowa 50321

II. JURISDICTION

This administrative consent order is issued pursuant to the provisions of Iowa Code sections 455B.134(9) and 455B.138(1), which authorize the director to issue any order necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II (air quality), and the rules promulgated or permits issued pursuant to that part; and Iowa Code section 455B.109 and 567 Iowa Administrative Code (IAC) chapter 10, which authorize the director to assess administrative penalties.

III. STATEMENT OF FACTS

Climax Molybdenum Company neither admits nor denies
the Statement of Facts stated herein.

1. The Climax Molybdenum facility, which is located at 2598 Highway 61 in Fort Madison, Iowa, produces molybdenum products. Processes at the facility are a source of air pollutant emissions to the outside atmosphere. Sulfur dioxide gas is generated from the processes at the facility. Climax Molybdenum then converts the sulfur dioxide (SO_2) to sulfuric acid through an on-site acid plant for emissions control . Unreacted SO_2 is released to the atmosphere. The Climax Molybdenum facility is classified as a major source of emissions and subject to Title V Operating Permit requirements. Climax Molybdenum is an indirect subsidiary of Freeport-McMoRan Inc, which is an American mining company based in Phoenix, Arizona.

2. Construction Permit No. 95-A-273-S2 was issued by DNR to Climax Molybdenum on July 23, 2008, for molybdenum roasters #1 and #2 (Emission Point (EP) ST20). This permit was issued as part of Project 08-300. Climax Molybdenum has failed to comply with Condition 6 (*Excess Emissions*) and Condition 10 (*Emission Limits*) of Construction Permit No. 95-A-273-S2 (EP ST20). The control equipment required by this construction permit is the sulfuric acid plant.

Climax Molybdenum has failed to comply with the emission limits for SO_2 contained in Construction Permit No. 95-A-273-S2 (EP ST20).

3. Construction Permit No. 95-A-273-S2 (EP ST20), Condition 10 (*Emission Limits*), establishes an emission limit of 105.0 lb/hr for SO_2. Stack testing conducted on October 30, 2019, resulted in 135.25 lb/hr of SO_2, in

violation of the permitted emission limit. This stack testing occurred using an EPA-approved method (Method 8).

Climax Molybdenum has failed to comply with Construction Permit No. 95-A-273-S2 (EP ST20), Condition 6 , and the conditions of 567 IAC 21.8(1) regarding excess emissions.

4. Climax Molybdenum has failed to maintain and operate the equipment and control equipment at the facility at all times in a manner consistent with good practice for minimizing emissions, as required by 567 IAC 21.8(1). This requirement also is contained in construction permits issued to the facility, including Construction Permit No. 95-A-273-S2 (EP ST20), Condition 6.

5. On September 26, 2023, Climax Molybdenum submitted information to the DNR related to the cause of the excess SO_2 emissions from the sulfuric acid plant from 2012 through 2022. Climax Molybdenum provided information that the increase in SO_2 emissions from EP ST20 was a result of degradation of converter efficiency of the sulfuric acid plant. This degradation of the converter efficiency resulted in 920 tons of SO_2 emissions above the calculated Projected Actual Emissions (PAE) from Project Number 08-300. The calculated difference between the PAE and the Baseline Actual Emissions (BAE) was submitted by Climax Molybdenum as part of Project Number 08-300.

6. Table A contains a list of the Climax Molybdenum excess emissions and unreported emissions per calendar year.

Table A

CY	Actual Annual SO_2 emissions using 10/04/2011 test results (tons/yr)	Excess EP ST20 Annual SO_2 Emissions (ton/yr) above the calculated PAE from Project Number 08-300	Climax Molybdenum reported Annual SO_2 emissions (tons/yr)	Unreported SO_2 emissions (tons/yr)*
2010	122.7	N/A	122.7	N/A
2011	149.9	N/A	131.5	18.4
2012	206.0	47	130.5	75.5
2013	209.6	51	132.7	76.9
2014	209.0	50	132.3	76.7

2015	207.8	49	131.6	76.2
2016	185.9	27	117.4	68.5
2017	198.6	40	125.4	73.2
2018	194.8	36	122.7	72.1
2019	258.4	99	173.8	84.6
2020	401.3	242	401.3	N/A
2021	345.5	187	345.5	N/A
2022	251.4	92	251.4	N/A
Total		920		622

*Due to calculating annual emissions without employing the October 4, 2011, SO_2 test results

The unpaid emission fees are stated in Attachment A, which is attached.

7. DNR Field Office 6 has received 68 excess emission reports from Climax Molybdenum since 2011. Each excess emission event is a violation per 567 IAC 21.7(4), as well as construction permits issued to the facility. Table B contains a chronology of the excess emissions events reported from 2010 through 2023.

Table B

Year	Number of reported excess emission events
2010	1
2011	5
2012	2
2013	3
2014	3
2015	1
2016	2
2017	4
2018	7
2019	14
2020	9
2021	5
2022	5

Climax Molybdenum has failed to comply with the requirement to report actual annual emissions in its Title V emissions inventories and to pay the required annual fee based on the total tons of actual emissions of each regulated pollutant.

8. Climax Molybdenum has failed to comply with the provisions of 567 IAC 24.106(2) [*Emissions inventory and documentation due dates*] and 567 IAC 30.4(2) [*Payment of Title V annual emissions fee*]. Climax Molybdenum is required to report actual annual emissions in a Title V emissions inventory and to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Climax Molybdenum has failed to meet these requirements.

- Climax Molybdenum failed to employ the tested SO_2 results of the October 4, 2011, stack test to report actual annual SO_2 emissions from 2011 through 2019. Reporting SO_2 emissions employing the incorrect emissions factor from the August 19, 2010, testing led to a total of 622 tons of unreported SO_2 emissions from 2011 through 2019.
- Climax Molybdenum failed to accurately report and pay fees on 622 tons of SO_2 emissions from 2011 through 2019.

Chronology

9. On August 18, 2010, a stack test was conducted for SO_2 on EP ST20. Construction Permit 95-A-273-S2 (EP ST20) contains a 105 lb/hr SO_2 emission limit. The SO_2 test results during this testing were 27.95 lbs/hr and 1.9 lbs/ton. DNR issued a letter stating that the facility was in compliance on October 6, 2010.

10. On October 4, 2011, stack testing was conducted for SO_2 on EP ST20in response to an EPA March 11, 2011, Clean Air Act section 114 information request. The SO_2 test results during this testing were 47.04 lbs/hr and 3.0 lb/ton. DNR received the 2011 test results on November 23, 2021, as part of Climax Molybdenum's response to a September 22, 2021, Letter of Inquiry from DNR to Climax Molybdenum. DNR issued a Notice of Violation (NOV) on February 23, 2022, for failure to accurately report annual SO_2 emissions from 2011 through 2019.

11. On October 13, 2019, stack testing was conducted for SO_2 on EP ST20. The SO_2 test results during this testing were 135.25 lbs/hr and 8.1 lbs/ton. DNR issued a NOV on December 20, 2019, for violations of the permitted SO_2 limits.

12. On January 21, 2020, stack testing was conducted for SO_2 on EP ST20. The SO_2 test results during this testing were 96.6 lbs/hr and 6.8 lbs/ton. DNR issued a Letter of Noncompliance on February 25, 2020, for testing below the maximum continuous output of the equipment. Climax Molybdenum reported the facility was operating at 340 tons/day when the capacity of the source is 409.9 ton/day.

13. On July 2, 2020, stack testing was conducted for SO_2 on EP ST20. The SO_2 test results during this testing were 94.41 lbs/hr and 6.7 lbs/ton. DNR issued a Letter of Noncompliance on September 15, 2020, for testing below the maximum continuous output of the equipment. Climax Molybdenum reported the source was operating at 337 ton/day when the capacity of the source is 409.9 ton/day.

14. On December 16, 2020, Climax Molybdenum submitted a pre-application request through Iowa EASY Air (submittal ID 50149). This submittal was assigned Project Number 20-360. On December 20, 2020, a video conference call was held between representatives of Climax Molybdenum, Trinity Consultants, and DNR Construction Permit staff to discuss upcoming projects at the Fort Madison facility. The sulfuric acid plant at Climax Molybdenum was built in 1976. Climax Molybdenum stated it was planning to make the following changes:

- Replacing the acid plant converter due to its age;
- External Heat Exchangers 2 and 3 would be replaced and converted to internal converters;
- The SO_2 cooler would be replaced; and
- Associated ductwork would also be replaced.

Climax Molybdenum stated the SO_2 stack emissions were about 230 ppm and the new equipment could reduce the SO_2 concentration at the stack to 60 ppm. The capacity of the sulfuric acid plant would be increased as part of the project partly due to the equipment being so old that it could not be replaced with the same sized equipment. Overall, the emissions were expected to go down because the plant would be more efficient after the changes.

Climax Molybdenum also stated it was conducting testing in April or May of 2021, and it might decide to change additional components based on that testing. Climax Molybdenum and DNR did not discuss the stack tests that had already occurred in October 2019, January 2020, and July 2020 during the December 2020 meeting. On May 2, 2020, Climax Molybdenum informed the DNR Air Quality Bureau Construction Permit Section the pre-application project (Project

Number 20-360) could be closed out as Climax Molybdenum was going a different direction.

15. As stated above, on September 22, 2021, DNR issued a Letter of Inquiry, requesting additional information related to the increase in SO_2 emissions from EP ST20.

16. On November 23, 2021, Climax Molybdenum provided to DNR information related to the September 22, 2021, Letter of Noncompliance. This information included a stack test report from October 4, 2011, for SO_2 on EP ST20.

17. On June 15, 2021, stack testing was conducted on EP ST20 for SO_2. The stack test results for SO_2 were 74.7 lb/hr and 4.7 lb/ton.

18. On February 23, 2022, DNR issued a NOV to Climax Molybdenum for failure to report annual SO_2 emissions using the results of the October 4, 2011, stack test results to calculate emissions.

19. On August 10, 2022, RATA testing was completed on EP ST20 for an SO_2 analyzer system. The results for SO_2 were 36.3 lb/hr and 2.3 lb/ton. Climax has stated that the facility has entered into a contract to install a permanent CEMS and has, at this time, installed a temporary CEMS unit.

20. From April 2022 through December 2023, DNR and Climax Molybdenum engaged in several meetings and information sharing exchanges to determine the cause of the SO_2 emission increases on EP ST20.

21. On October 31, 2023, DNR issued a NOV for failure to maintain equipment in response to Climax Molybdenum providing additional information. In that NOV, DNR agreed that the SO_2 increases above the PAE were related to a degradation of the sulfuric acid plant converter efficiency. As a result, DNR rescinded the PSD claims in the February 23, 2022, NOV. In addition, several excess emission events have been reported at the facility over the years that these SO_2 issues were ongoing.

22. On February 1, 2024, Climax Molybdenum submitted a maintenance plan. DNR and Climax Molybdenum have had meetings since the submission, and the maintenance plan which has been agreed upon between Climax Molybdenum and DNR, is attached as Attachment B.

Past Enforcement History

23. Climax Molybdenum has a history of air quality violations.

- A NOV was issued on February 17, 1989, for failure to orally report excess emissions.
- A NOV was issued on July 11, 1996, for failure to report hazardous conditions relating to excess emissions.
- An Administrative Consent Order was issued on October 21, 1999, which included a $5,000 penalty.
- A NOV was issued on September 17, 2002, for constructing a storage tank without a permit.
- A NOV was issued on April 12, 2005, for a recordkeeping deviation noted in the facility's Title V Annual Compliance Certification.
- A NOV was issued on March 23, 2011, for construction without a permit.

IV. CONCLUSIONS OF LAW

Climax Molybdenum Company neither admits nor denies the Conclusions of Law stated herein.

1. Iowa Code section 455B.133 provides that the Environmental Protection Commission (Commission) shall establish rules governing the quality of air and emission standards. The Commission has adopted 567 IAC chapters 20-35 relating to air quality.

2. Iowa Code section 455B.134(3) provides that the director of DNR shall grant, modify, suspend, terminate, revoke, reissue or deny permits for the construction or operation of new, modified, or existing air contaminant sources and for related control equipment.

3. 567 IAC 22.1(1) states unless exempted in subrule 22.1(2) or to meet the parameters established in paragraph *"c"* of this subrule, no person shall construct, install, reconstruct or alter any equipment, control equipment without first obtaining an air quality construction permit.

4. 567 IAC 22.3(3) states that an air quality construction permit may be issued subject to conditions which shall be specified in writing, and may include, but are not limited to, emission limits, operating conditions, fuel specifications, compliance testing, continuous monitoring, and excess emission reporting. As stated above, Climax Molybdenum failed to comply with the provisions of Construction Permit No. 95-A-273-S2 (EP ST20).

5. 567 IAC 21.8(1) requires that the owner or operator of any equipment or control equipment shall maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions. As stated above, Climax Molybdenum has failed to conduct ongoing

maintenance and repairs to equipment and control equipment, as required by 567 IAC 21.8(1).

6. 567 IAC 21.10(7)(a) requires that results of stack tests shall be submitted to DNR within six weeks of completion of the testing. As stated above, Climax Molybdenum has failed to comply with this rule.

7. 567 IAC 24.106(2) and 567 IAC 30.4(2) require Climax Molybdenum to report annual emissions in a Title V emissions inventory and to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. As stated above, Climax Molybdenum failed to meet these requirements.

V. ORDER

THEREFORE, DNR orders and Climax Molybdenum agrees to the following:

1. Climax Molybdenum shall comply with the maintenance plan attached as Attachment B. Any proposed changes to Attachment B shall be submitted by Climax Molybdenum in writing to DNR for DNR approval.

2. Within 180 days of the date this Administrative Consent Order is signed by the director, Climax Molybdenum shall install, certify and operate a permanent SO_2 CEMs monitoring system, CO_2 or O_2 monitoring system, and flow meter on the EP ST20 stack, that is capable of measuring SO_2 on a mass basis (lb/hr or lb/ton).

3. In the future, Climax Molybdenum shall comply with the provisions of its construction permits, and within 30 days of the date this administrative consent order is signed by the director, Climax Molybdenum shall submit to DNR a construction permit application to amend the provisions of Construction Permit No. 95-A-273-S2 (EP ST20) to incorporate the requirements of this ordering clause, paragraphs 1 and 2.

4. In the future, Climax Molybdenum shall comply with the provisions of 567 IAC 21.8(1), which requires the maintenance and operation of equipment and control equipment at all times in a manner consistent with good practice for minimizing emissions, and which requires that the facility remedy any cause of excess emissions in an expeditious manner.

5. Within 30 days of the date this administrative consent order is signed by the director, Climax Molybdenum shall electronically submit in SLEIS the corrected Title V emission inventories for years 2011 through 2019 to include the 622 tons of unreported SO_2 emissions; and shall pay Title V emission fees for the

622 tons of unreported SO_2 emissions. The fees shall be paid using the emission rate applicable for each year that has unreported and unpaid emissions. A table of the unreported SO_2 emissions and unpaid fees is included in Attachment B.

6. Within 60 days of the date this order is signed by the director, Climax Molybdenum shall pay a penalty of $10,000.00, as set forth in Section VI, below.

VI. PENALTY

Pursuant to the provisions of Iowa Code section 455B.109 and 567 IAC chapter 10, which authorize the director to assess administrative penalties, a penalty of $10,000.00 is assessed by this administrative consent order. The penalty must be paid within 60 days of the date this order is signed by the director. The administrative penalty is determined as follows:

Iowa Code section 455B.146 authorizes the assessment of civil penalties of up to $10,000.00 per day of violation for the air quality violations involved in this matter. More serious criminal sanctions are also available pursuant to Iowa Code section 455B.146A.

Iowa Code section 455B.109 authorizes the Commission to establish by rule a schedule of civil penalties up to $10,000.00 that may be assessed administratively. The Commission has adopted this schedule with procedures and criteria for assessment of penalties through 567 IAC chapter 10. Pursuant to this rule, DNR has determined that the most effective and efficient means of addressing the above-cited violations is the issuance of an administrative consent order with a penalty. The administrative penalty assessed by this order is determined as follows:

Economic Benefit – 567 IAC chapter 10 requires that DNR consider the costs saved or likely to be saved by noncompliance. 567 IAC 10.30(1) states that where the violator received an economic benefit through the violation or by not taking timely compliance or corrective measures, DNR shall take enforcement action which includes penalties to offset the economic benefit. 567 IAC 10.30(1) further states that reasonable estimates of economic benefit should be made where clear data are not available.

Climax Molybdenum has gained economic benefit by failing to report emissions properly. Climax Molybdenum under reported SO_2 emissions from 2011 through 2019 due to failure to apply the correct emission factor. Climax Molybdenum gained economic benefit by, at a minimum, delaying paying for the unreported SO_2 emissions for several years. Economic benefit was also gained by not spending additional funds to properly maintain equipment and facilities based on the increased number of excess emission events. Climax Molybdenum reported

increased emissions from EP ST20 have been attributed to degradation of the sulfuric acid plant converter efficiency.

For the reasons stated above, $4,000.00 should be assessed for this factor.

Gravity of the Violation –Substantial civil penalties are authorized by statute for the type of violations cited in this Administrative Consent Order. Despite the high penalties authorized, DNR has decided to handle the violations administratively at this time, as the most equitable and efficient means of resolving the matter.

Climax Molybdenum has released large amounts of SO_2 into the atmosphere. Short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO_2. SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems. At high concentrations, gaseous SOx can harm trees and plants by damaging foliage and decreasing growth. SO_2 and other sulfur oxides can contribute to acid rain, which can harm sensitive ecosystems. SO_2 and other sulfur oxides can react with other compounds in the atmosphere to form fine particles that reduce visibility (haze) in parts of the United States. The harmful effects of SO_2 add to the gravity of Climax Molybdenum's SO_2 emissions.

Climax Molybdenum failed to apply stack test results to reflect its actual emissions when reporting emissions from 2011 through 2019. This resulted in a total of 622 tons of unreported SO_2 emissions. It is important that Title V facilities submit accurate emission inventories. DNR must calculate the statewide Title V emissions and provide this information to the public by April 30 of each year. Additionally, the DNR relies on emission inventories to set the Title V fees. These fees are required to administer the air programs required under the Clean Air Act. Emission inventories are one of the basic, minimum reporting requirements under Iowa's Title V Operating Permit program. The inventories allow industry, citizens, and regulatory agencies to be informed about actual emissions. Climax Molybdenum's actions threaten the integrity of the DNR's air quality program.

For the reasons stated above, $3,000.00 should be assessed for this factor.

Culpability – Climax Molybdenum conducted SO_2 stack testing on October 4, 2011, using an EPA-approved method (Method 8). Climax Molybdenum failed to use known SO_2 emission results from the October 4, 2011, SO_2 test when calculating and reporting actual SO_2 emissions to the DNR from October 4, 2011, until October 29, 2019. Continued excess emissions events

have been reported as recently as August 2023 caused by issues discovered in the sulfuric acid plant. Climax Molybdenum failed to timely address ongoing excess emissions. All of the excess SO_2 emissions referenced in this order are evidence that Climax Molybdenum has failed to properly maintain equipment or control equipment at the facility to minimize emissions.

For the reasons stated above, $3,000.00 should be assessed for this factor.

VII. WAIVER OF APPEAL RIGHTS

This administrative consent order is entered into knowingly and with the consent of Climax Molybdenum. For that reason, Climax Molybdenum waives its right to appeal this order or any part thereof.

VIII. NONCOMPLIANCE

Failure to comply with this administrative consent order, including failure to timely pay any penalty, may result in the imposition of further administrative penalties or referral to the attorney general to obtain injunctive relief and civil penalties pursuant to Iowa Code section 455B.146. Compliance with Section "V. Order" of this administrative consent order constitutes full satisfaction of all requirements pertaining to the specific violations described in Section "IV. Conclusions of Law" of this administrative consent order.

Kayla Lyon

Digitally signed by Kayla Lyon
Date: 2024.08.23 16:30:41 -05'00'

Kayla Lyon, Director
Iowa Department of Natural Resources

Douglas Currault

Digitally signed by Douglas Currault
Date: 2024.08.15 09:18:17 -07'00'

Name: Douglas N. Currault II, Executive Vice President
Climax Molybdenum Company

Dated this _____ day of

_____, 2024.

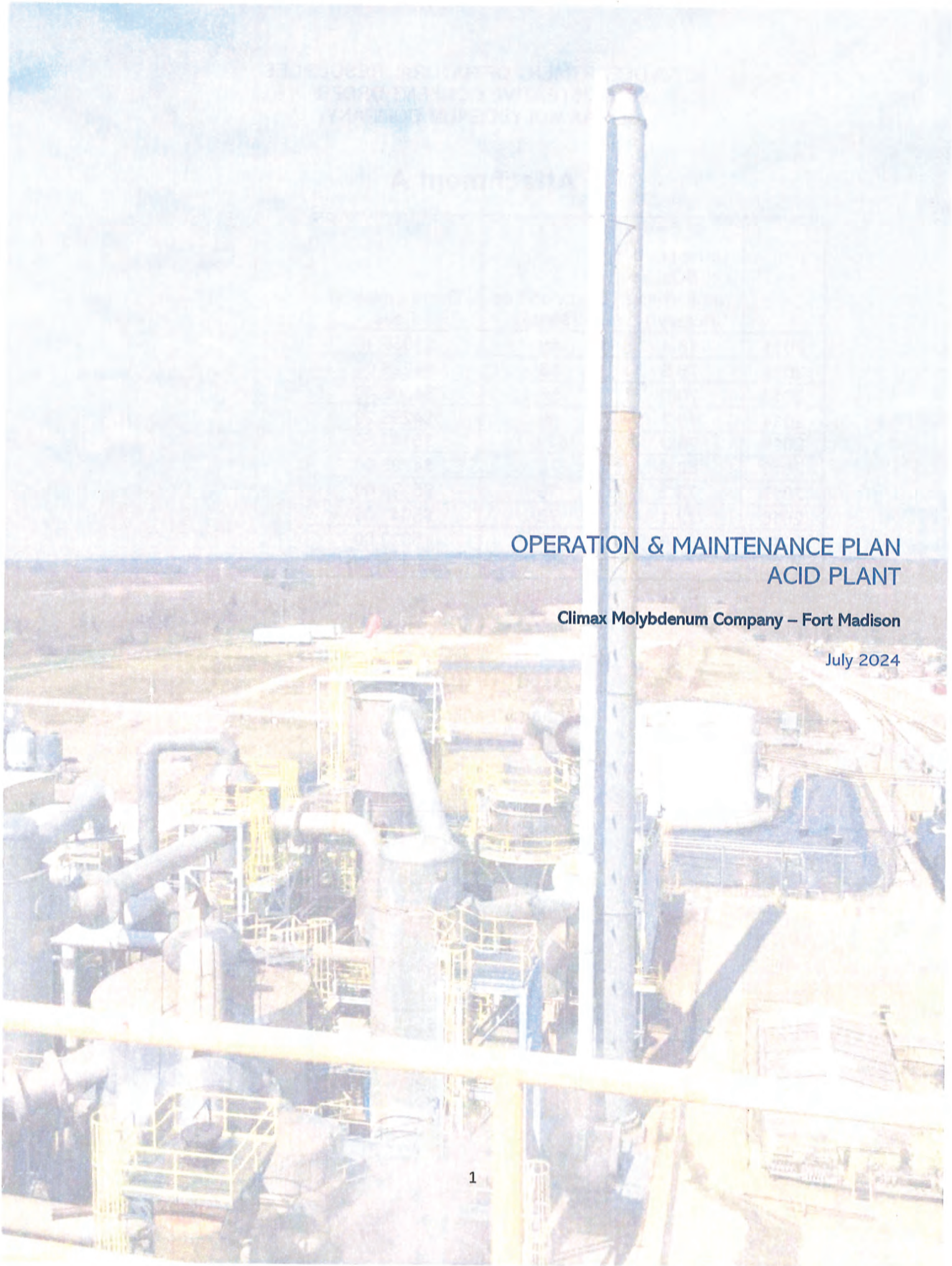
DNR Air Quality Bureau; Field Office 6

Attachment A

	Unreported SO_2 emissions (tons/yr)	Emission Fee ($/ton)	Owed Emission Fees
2011	18.4	56	$1030.40
2012	75.5	56	$4228.00
2013	76.9	56	$4306.40
2014	76.7	56	$4295.20
2015	76.2	67.5	$5143.50
2016	68.5	70	$4795.00
2017	73.2	70	$5124.00
2018	72.1	70	$5047.00
2019	84.6	70	$5922.00
Total			$39891.50

Attachment B

(maintenance plan)



OPERATION & MAINTENANCE PLAN
ACID PLANT

Climax Molybdenum Company – Fort Madison

July 2024

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1. Overview
2. Equipment Description
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    - 3.2. Items that are Inspected and Frequency of Inspection or Repair
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5. Contingency Plan [567 IAC 24.2(2)(c)]
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1. Overview

This Maintenance Plan sets forth the practices and procedures to be used by Climax Molybdenum Company (CMC) personnel to ensure proper maintenance of the Acid Plant equipment and systems used at the Fort Madison facility. The Plan is based on the manufacturer's or engineer's recommendations, CMC operating experience, and the maintenance plan requirements under 567 IAC 24.2(2).

2. Equipment Description

CMC operates a double contact/double absorption sulfuric acid plant (Acid Plant) as a control device for sulfur dioxide (SO_2) emissions from its two twelve-hearth molybdenum roasters (Roasters). During operations, the process off-gases from the Roasters are routed to the Acid Plant to convert SO_2 gas into product sulfuric acid (H_2SO_4). The gas stream is cooled and cleaned using a Dynawave scrubber, scrubber cooler, wet electrostatic precipitators, and condenser coolers prior to entering the Acid Plant. The Drying Tower removes moisture from process gas before pulling through the Main Gas Blower and into the Sulfur Furnace which provides supplemental SO_2 into the process gas stream. The gas then enters the Waste Heat Boiler and Preheater for appropriate temperature adjustment before entering the converter. The gas stream passes through the converter, consisting of four converter beds, which convert the SO_2 in the gas to sulfur trioxide (SO_3). The converted gas then flows through absorption tower circuits where the SO_3 is converted to 93% sulfuric acid. Any residual sulfur dioxide remaining in the gas stream, that has not been converted, is exhausted from the Acid Plant through ST20 into the atmosphere.

Primary components of the Acid Plant are identified in Table 2.1 below.

Table 2.1 Primary Acid Plant Components and Process Description

Component	Process Description
Drying Tower	Removes moisture from process gas and controls final acid concentration
Main Gas Blowers	Pulls SO_2 process gas through Drying Tower and into Heat Exchanger/Converter system
Sulfur Furnace	Provides supplemental SO_2 into gas stream for proper conversion of process gas
Waste Heat Boiler	Provides temperature control for proper SO_2 conversion
Preheater	Process gas temperature control for SO_2 conversion
Converter	Conversion of SO_2 to SO_3
External Heat Exchangers	Process gas temperature control for SO_2 conversion
SO_3 Cooler	Cools SO_3 prior to H2SO4 conversion
Absorption Towers	Conversion of SO_3 to H_2SO_4

3. Preventative Maintenance Schedule *[567 IAC 24.2(2)(a)]*

3.1 Persons Responsible for Inspecting, Maintaining, and Repairing Acid Plant Equipment

To ensure the Acid Plant operates and performs as designed, the following CMC Departments are responsible for inspecting, maintaining, and repairing Acid Plant equipment as specified below:

- Operations is responsible for operating the Acid Plant, performing identified inspections, and notifying appropriate parties during upset conditions or malfunctions.
- Maintenance (Mechanics, Engineers, Instrumentation Technicians, Reliability Centered Maintenance [RCM] Technicians and Contractors) is responsible for assisting with troubleshooting and/or making appropriate repairs during upset conditions or malfunctions.
- Technical Service is responsible for managing converter catalyst sampling and providing Acid Plant process support.

Responsibilities for specific tasks are identified in Table 3-2.

3.2 Preventative Maintenance

Acid Plant preventative maintenance frequencies, tasks, and responsibilities are identified in Table 3-2 below.

Table 3-2. CMC – Acid Plant – Preventive Maintenance

Equipment	Frequency	Task Performed	Responsible Department
Acid Plant Ductwork	Annual	Inspect and repair as required	Maintenance
	Annual	Reliability Centered Maintenance Thickness Testing	Maintenance
Drying Tower Candles	Annual	Replace as required	Maintenance
[1]Converter - A Bed Catalyst	Every 1 – 2 years	Screen and replace mechanically degraded catalyst	Technical Services and Maintenance
[1]Converter – B-Bed Catalyst	Every 1 – 3 years	Screen and replace mechanically degraded catalyst	Technical Services and Maintenance
[1]Converter – C-Bed Catalyst	Every 2 – 4 years	Screen and replace mechanically degraded catalyst	Technical Services and Maintenance
[1]Converter – D-Bed Catalyst	Every 4 – 6 years	Screen and replace mechanically degraded catalyst	Technical Services and Maintenance
[2]Converter Beds (A – D) Catalyst	Annual	Obtain catalyst sample from each bed and analyze catalyst activity	Technical Services

[1] Catalyst in the converter beds is screened per Preventative Maintenance schedule based on manufacturer recommendations & Acid Plant production. Any mechanically degraded catalyst removed during the screening process is replaced with new.
[2] Catalyst from all four beds (A – D) is sampled and analyzed for catalyst activity during Annual Turnaround. Based on the activity report, a replacement schedule is developed. If activity is less than 60% for a particular converter bed, the catalyst will be replaced during the next Turn-Around event.[See Note 1 in "IDNR Comments and Discussion with Climax – Draft Maintenance Plan."]

Equipment	Frequency	Task Performed	Responsible Department
Converter Internal Structure Inspection	Annual	Inspect and repair as required	Maintenance
Heat Exchanger Inspections	Annual	Inspect and repair as required	Maintenance
Spare Main Gas Blower - Inlet Butterfly Valve	Weekly	Actuate inlet butterfly valve	Operations
Main Gas Blowers	Annual	Inspect and repair as required	Maintenance
	Weekly	External Mechanical Inspection	Maintenance
	Monthly	RCM Vibration Check	Maintenance
Acid Plant Emergency Blower	Annual	Inspect and repair as required	Maintenance
	Quarterly	Blade Check	Maintenance
	Monthly	RCM Vibration Checks, Mechanical Lube Route,	Maintenance
Rotating Process Equipment	Monthly	Lube oil checks	Maintenance
Absorption Tower Inspections (Drying Tower, Absorption Tower #1, Absorption Tower #2)	Annual	Inspect, clean, and repair as required; Acid distribution check	Maintenance and Operations
Waste Heat Boiler Inspections	Annual	Inspect and repair as required	Maintenance
Sulfur Furnace and Sulfur Tank Inspections	Annual	Inspect, clean, and repair as required	Maintenance
Acid Strength Controller	Monthly	Checked/Calibrated as needed	Maintenance
	3x/Shift	Manual strength check	Operations
Main Stack	Weekly	Flush and drain	Operations
	Annual	Clean	Operations
Acid Coolers	Annual	Internal Inspection, clean, and Eddy current check	Maintenance
Cooling Tower	Annual	Clean and inspect	Maintenance
Acid Plant Ductwork	Quarterly	Ductwork inspections utilizing UAV flights. Based on review of quarterly UAV images, CMC will establish a plan for repair for any identified compromised insulation.	Maintenance

Table 3-3. CMC – Acid Plant – Daily Operational Inspections

Inspection Item	Task Performed
General Acid Plant Operational Inspection	Workplace Examinations (Visual Inspections)

3.3. Critical Equipment Spare Parts List

Table 3-4. CMC – Critical Equipment Spare Parts List

Table 3-4 lists the critical spare parts which will be maintained in inventory for quick replacement to ensure continuity of operation of the Acid Plant.

Description	Identification
Acid Plant SO_3 Cooler Fan	112433007W
Acid Plant MCC Unit 1	112499024D
Acid Plant MCC Unit 2	112499025D
Acid Plant MCC Unit 3	112499026D
Acid Plant MCC Unit 4	112499027D
Main Gas Blower MCC	112499003D
Main Gas Blower – North	112433002W
Main Gas Blower – South	112433001W
Emergency Gas Blower	112451006W
West Sulfur Feed Pump	112461031W
East Sulfur Feed Pump	112461030W
Acid Plant Combustion Air Forge Blower	112433003W

Spare parts are purchased and stored by the field service warehouse personnel based on historic repair trends and the expectation of a part failure based on manufacturer recommended service life and historic trends. The spare parts inventory is maintained through a computerized system based on availability of spare parts, cost of spare parts, and time to delivery of the spare parts. Parts in need of repair are repaired either on-site or sent to a repair facility. If the part is worn beyond repair, a new part is ordered.

4. Operating Variables Monitored to Detect Malfunctions or Failures *[567 IAC 24.2(2)(b)]*

CMC Operations monitors certain variables continuously throughout the day to detect leading indicators of inefficient Acid Plant operation or malfunctions so that it can take corrective action for purposes of ensuring the Acid Plant is running optimally and in compliance with permitted emission limits.

The timing for catalyst replacement in each bed depends upon the catalyst activity. CMC conducts an annual catalyst activity analysis in which catalyst from each bed of the converter is sampled and sent to a third party for analysis. Based upon the catalyst activity report, CMC develops a replacement schedule for each of the beds to maintain a catalyst activity of 60%.

The following sections identify the variables monitored (along with a description why the variable is monitored), the normal operating range of these variables, and a description of the monitoring methods and surveillance procedures.

4.1 Variables Monitored

4.1.1 SO_2 – Concentration and Pounds per Hour

The SO_2 concentration (ppm) and pounds of SO_2 per hour are two operating parameters selected as representative and reliable indicators of Acid Plant and converter operating performance. Elevated concentrations and pounds per hour could be indicative of poor SO_2 conversion in the Acid Plant converter. SO_2 concentrations above levels indicated in Table 4.2 below indicate a need for further investigation and troubleshooting to ensure the Acid Plant is operating efficiently while maintaining compliance.

4.1.2 SO_2 – Pounds per Ton of Sulfuric Acid Produced

While natural variation of SO_2 concentration and pounds per hour is expected, another parameter indicative of catalyst and converter health is pounds of SO_2 per ton of Sulfuric Acid produced. Measurements outside of normal ranges in Table 4.2 below indicate a need for further investigation and troubleshooting to ensure the Acid Plant is operating efficiently.

4.1.3 Absorption Tower #2 – Inlet Acid Temperature and Acid Strength

Absorption Tower #2 inlet acid temperature and acid strength are also monitored as a performance indicator of overall Acid Plant performance. Measurements outside of normal ranges in Table 4.2 below indicate a need for further investigation and troubleshooting to ensure Acid Plant is operating efficiently.

4.1.4 Acid Plant Ductwork – Visible Emissions

Acid Plant ductwork is visually inspected daily for evidence of visual emissions which would indicate compromised ductwork. Variables outside of normal ranges in Table 4.2 below would result in further investigation and troubleshooting to ensure Acid Plant is operating efficiently while maintaining compliance.

4.2 Normal Operating Ranges

The normal operating range for each of the variables monitored is identified in Table 4.2 below.

Table 4.2 Normal Operating Ranges

Parameter	Normal Operating Range	Averaging Times
Sulfur Dioxide (SO_2)	50 - 250ppm	1-Second Average
	10 – 75 Pounds of SO_2 per Hour	1-Hour Average
	1 – 3 Pounds of SO_2 per Ton of H_2SO_4 Produced	24-Hour Average
Absorption Tower #2 Inlet Acid Temperature	165°F -195°F	1-Hour Average
Absorption Tower #2 Acid Strength	98.2% - 98.7%	1-Hour Average
Visible Emissions	None	Instantaneous

4.3 Monitoring Methods and Surveillance Procedures

The Absorption Tower #2 acid inlet temperature and strength are measured by a thermocouple and strength controller, respectively. Sulfur dioxide concentration is measured by a Continuous Emission Monitoring System (CEMS). Sulfur dioxide pounds per hour is calculated utilizing concentration data and process gas flow data. Sulfur dioxide pounds per ton of Sulfuric Acid produced is calculated from data obtained from CEMS unit as well as an acid production flow meter and totalizer. Sulfur dioxide and Absorption Tower parameters are averaged for the specified time-block listed in Table 4.2 such that there are 24 1-hour average periods each day and one 24-hour period constituting a calendar day.

Data from these pieces of equipment is transferred to a distributive control system (DCS) which processes and manages the data. The DCS includes; Control Processors, a data storage system, and a control panel. The transmitter collects data, amplifies the signal, and transmits it to the DCS I/O system. The DCS is a specialized computer system designed to run algorithms to automatically control or adjust processes that affect operating parameters through a controller based on signals received from the transmitter. The DCS also transmits these signals to the data storage system for recording purposes. Operators can view the data in a numeric or a graphical manner in real time mode. The operators can also manually adjust processes as warranted by the observed data.

5. Contingency Plan [567 IAC 24.2(2)(c)]

If an upset, malfunction, or other potential problem with the Acid Plant is identified (via DCS alarm or otherwise) or parameters outside of ranges identified in Table 4.2 occur, operators shall initiate the steps as outlined below. Section 5.1 identifies initial steps personnel may take in response for each parameter. However, because there are numerous reasons a parameter may be out of range, a more extensive investigation may be required. The general steps of these investigations are outlined in Section 5.2.

5.1. Action Levels and Response

5.1.1 SO_2 – Concentration and Pounds per Hour

If the SO_2 concentration or pounds per hour are not within the Normal Operating Range listed in Table 4.2, CMC will verify that the CEMS is properly calibrated by reviewing the daily calibration information. If the calibration is not verified, then recalibration/troubleshooting procedures will be implemented to ensure the CEMS is operating properly. If the CEMS has been determined to be properly calibrated, the next step in the process is to observe the Converter Bed inlet temperatures (for Beds A, B & D) to look for any changes from the previous reading. The Bed temperatures can be adjusted by adjusting steam and flow settings, as required. If these steps do not identify and remedy the issue, then additional progressive investigation/corrective actions as set forth below will be followed.

5.1.2 Absorption Tower #2 – Inlet Acid Temperature

If the Acid temperature is not within the Normal Operating Range listed in Table 4.2, CMC will verify that the thermocouples are reading correctly by reviewing the temperature history to determine the consistency of the readings. If it is determined that a thermocouple is reading incorrectly, then it will be replaced. If it is determined that the thermocouple is reading correctly, CMC will verify that the bypass valves/actuators for the Acid Coolers are reacting properly based upon the signal received from the thermocouple. If any are found to not be functioning properly, then the Acid Cooler system will be placed in manual control until the valve/actuator can be replaced. If these steps do not identify and remedy the issue, then additional progressive investigation/corrective actions as set forth below will be followed.

5.1.3 Absorption Tower #2 – Acid Strength

If the Acid strength is not within the Normal Operating Range listed in Table 4.2, CMC will verify the calibration of the Acid Strength Controller. If the Controller is out of calibration, then it will be recalibrated. If the calibration has been verified to be correct, CMC will verify that the Controller is sending the appropriate open/close signal to the Acid Flow Valve and that the valve is actuating appropriately. If the Controller is not working properly, the

system will be placed into manual operation and the flow valve will be manually adjusted, based upon hourly acid strength results obtained by titration, while the Controller is being replaced. If the open/close signal is not being sent to the flow valve actuator, then Electronics and Instrumentation (E&I) personnel will troubleshoot the issue and repair as required. If the valve actuator is not working properly, then the valve will be replaced. If these steps do not identify and remedy the issue, then additional progressive investigation/corrective actions as set forth below will be followed.

5.1.4 Acid Plant Ductwork – Visible Emissions

If visible emissions are observed, the first step in the Investigation/Corrective Action Process is to attempt to determine the exact location, size, and severity of the leak. Depending upon leak location, this may require installing scaffolding and removal of insulation. Not all leaks are identical in nature, therefore the extensiveness of the repairs required to fix the leaks differ as well. These repairs could be as simple as welding a patch over a small hole while the Roasters & Acid Plant are still in operation, to more extensive repairs requiring removal of feed from the Roasters and shutting down the Acid Plant.

5.2. General Procedures

5.2.1. Investigation

Operators will immediately investigate the nature and extent of the potential problem. Some problems may be of an emergency nature and require immediate corrective action by operations or maintenance staff to minimize amount and/or duration of emissions, ensure employee and surrounding community safety, or prevent damage to critical equipment. Removing feed from the Roasters and shutting down the Acid Plant is a form of corrective action, but not the only corrective action. Other problems may be more minimal in nature and less critical to the performance of the Acid Plant and may allow for troubleshooting and problem diagnosis by the operator during continued operations. Appropriate next steps are based on the results of the operator's investigation.

5.2.2. Troubleshooting, Adjustments, and Problem Diagnosis

If warranted by the operator's investigation, the operator should attempt to confirm or eliminate possible causes of the problem by troubleshooting. As part of this effort, the operator may try to concurrently resolve the problem by adjusting processes. While such adjustments may resolve the immediate problem, further diagnosis may be warranted to identify and address underlying causal factors. For such situations, or where the operator is unable to identify and address the suspected cause, problem diagnosis may require assistance from other departments (maintenance, electrical, etc.).

5.2.3. Diagnostic Inspection

In the event the operator is unable to promptly identify and resolve the source of the problem, the operator shall contact appropriate personnel (e.g., maintenance staff) and request a diagnostic inspection. A work order shall be generated for the diagnostic

inspection, including any recommended repairs, replacements, or other corrective action based on the results of the inspection.

5.2.4. *Corrective Action and Preventive Measures*

Based on the diagnostic inspection and associated recommendations, appropriate corrective action and/or preventive measures shall be identified and implemented to include any or all the following activities:

1. Conduct repair or perform operational adjustments while operating
2. Remove feed from the Roasters
3. Shut down the Acid Plant

The timing of such action (e.g., immediate, during preventive maintenance intervals, or scheduled plant outages) shall be determined considering personnel safety, environmental impacts, risk of potential damage to equipment, the performance of the Acid Plant, and the ability to remain in compliance with applicable emission limitations or standards. Any corrective action or preventive measure taken shall be documented and maintained in the FMMI work order system.

Appendix D: DNR Project 00-235

RECORD COPY

File Name

Senders Initials

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

February 4, 2002

7000 1670 0001 1817 4084 5

CERTIFIED MAIL

Shelly Heston
Climax Molybdenum Company
PO Box 220
Ft. Madison, IA 52627

Re: Plant Number 56-02-021, Project Number 00-235, Permit amendment not required.

Dear Ms Heston:

The Department recently received a letter from Climax Molybdenum dated January 17, 2002 concerning the necessity of a permit amendment to permit 95-A-273-S1. Per a May 18, 2000 meeting, the Department felt permit 95-A-273-S1 needed to be amended for the following reasons:

1) The Department did not originally review the emergency stack and therefore felt some mention of this stack needed to be placed in the permit.
2) In the original review the Department was not aware of the use of elemental sulfur in the process. The Department felt a limit was required in order to keep the unit from being subject to NSPS Subpart H.

In regards to the first issue, a permit modification is not necessary per Project Number 97-132. As is discussed in correspondence during this project, Climax Molybdenum made an agreement with the Department in which a permit amendment is not required as long as the emergency stack is used less than five (5) times per year. Please note that this requirement with the necessary recordkeeping will be placed in Climax Molybdenums Title V permit. If you have any questions concerning this program please contact Jason Marcel at (515) 242-5014.

Recently the Department received a December 27, 2001 letter from EPA Region VII concerning Subpart H applicability. In that letter EPA determined the acid plant is a control device. Therefore, there is no need of a limit on the amount of elemental sulfur used.

Since the Department's reasons for a permit modification have been resolved, the Department has determined permit 95-A-273-S1 is not required to be amended at this time. If you have any questions feel free to call me at (515) 242-6002 or email me at chris.roling@dnr.state.ia.us.

Sincerely,

Christopher A. Roling

Christopher A. Roling, PE
Environmental Engineer Senior
Air Quality Bureau, IDNR

C: Anne Preziosi, IDNR
Jason Marcel, IDNR
Field Office 6

Appendix E: Executive Order (EO10) Rules Crosswalk

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
20	**20 (Reserved)**	Scope of Title - Definitions	N/A	**Definitions moved** to Ch. 21, 22 and 23. **Rescinded** Ch. 20. (Reserved)
21	**21**	Compliance	Compliance, Excess Emissions, and Measurement of Emissions	**Kept and combined** with rules from Chapters 24, 25, 26, and 29.
22	**22**	Controlling Pollution-Permits	Controlling Air Pollution - Construction Permitting	**Kept construction permit rules and combined** with Ch. 20 (definitions) and Ch. 28 (NAAQS). **Moved operating permit rules** to Chapter 24.
22.100 - 22.300(12)	**(New) 24**	N/A	Operating Permits	**Moved operating permit rules** from Ch. 22 to Ch. 24.
23	**23**	Emission Standards	Air Emission Standards	**Kept**
24	**(New) 21**	Excess Emissions	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Moved TV rules** here (to Ch. 24).
25	**(New) 21**	Emissions Measurement	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 25. (Reserved)
26	**(New) 21**	Emergency Air Pollution Episodes	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 26. (Reserved)
27	**27**	Local Program Acceptance	Local Program Acceptance	**Kept**
28	**22**	NAAQS	N/A	**Moved rules and combined** with Ch. 22. **Rescinded** Ch. 28. (Reserved)
29	**(New) 21**	Opacity Qualifications	Compliance, Excess Emissions, and Measurement of Emissions	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 29. (Reserved)
30	**30**	Fees	Fee	**Kept**
31	**31**	Nonattainment Areas	Nonattainment New Source Review	**Kept**
32	**N/A**	AFO Field Study	N/A	**Rescinded** Ch. 32. (Reserved)
33	**33**	Special regulations and construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD) of air quality	Construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD)	**Kept**
34	**N/A**	Emissions Trading-CAIR-CAMR	N/A	**Rescinded** Ch. 34. (Reserved)
35	**N/A**	Grant Assistance Programs	N/A	**Rescinded** Ch. 35. (Reserved)

Previous Chapter Number (Priorto 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
20	**20 (Reserved)**	**Scope of Title - Definitions**	**N/A**	**Definitions moved** to Ch. 21, 22 and 23. **Rescinded** Ch. 20. (Reserved)
20.1	N/A	Scope of title	N/A	
20.2	Ch. 21, 22, 23	Definitions	Definitions	See beginning of Ch. 21, 22, and 23
20.3	N/A	Air quality forms generally	N/A	

21	**21**	**Compliance**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Kept and combined** with rules from Chapters 24, 25, 26, and 29.
21.1	21.1	Compliance Schedule	Definitions and compliance requirements	Added definitions from Ch. 21, some language updated
21.2	21.2	Variances	Variances	Some language updated
21.3	21.3	Emission reduction program	Reserved	Reserved
21.4	21.4	Circumvention of rules	Circumvention of rules	Minor language updated
21.5	21.5	Evidence used in establishing that a violation has or is occurring	Evidence used in establishing that a violation has occurred or is occurring	21.5(2) Reserved, some language updated
21.6	21.6	Temporary electricity generation for disaster situations	Temporary electricity generation for disaster situations	Minor language updated
24.1	21.7	Excess emission reporting	Excess emission reporting	Moved from Ch. 24, some language updated
24.2	21.8	Maintenance and repair requirements	Maintenance and repair requirements	Moved from Ch. 24, some language updated
N/A	21.9	N/A	Compliance with other requirements	New language
25.1	21.10	Testing and sampling of new and existing equipment	Testing and sampling of new and existing equipment	Moved from Ch. 25, some language updated
25.2	21.11	Continuous emission monitoring under the acid rain program	Continuous emission monitoring under the acid rain program	Moved from Ch. 25, some language updated
25.3	N/A	Mercury emissions testing and monitoring	N/A	Rescinded. Except 25.3(5)
25.3(5)	21.12	Affected sources subject to Section 112(g)	Affected sources subject to Section 112(g)	Moved from Ch. 25, some language updated
29.1	21.13	Methodology and qualified observer	Methodology and qualified observer	Moved from Ch. 29, some language updated
26.1	21.14	Prevention of air pollution emergency episodes - General	Prevention of air pollution emergency episodes	Moved from Ch. 26, some language updated
26.2	21.15	Episode criteria	Episode criteria	Moved from Ch. 26, some language updated
26.3	21.16	Preplanned abatement strategies	Preplanned abatement strategies	Moved from Ch. 26, some language updated
26.4	21.17	Actions taken during episodes	Actions taken during episodes	Moved from Ch. 26, some language updated
Ch 26 Table III	Table I	Abatement strategies emission reduction actions alert level	Abatement strategies emission reduction actions alert level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table IV	Table II	Abatement strategies emission reduction actions warning level	Abatement strategies emission reduction actions warning level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table V	Table III	Abatement strategies emission reduction actions emergency level	Abatement strategies emission reduction actions emergency level	Moved from Ch. 26, reference federal appendix table

22	**22**	**Controlling Pollution-Permits**	**Controlling Air Pollution - Construction Permitting**	**Kept construction permit rules and combined** with Ch. 20 (definitions) and Ch. 28 (NAAQS). **Moved operating permit rules** to Chapter 24.
22.1	22.1	Permits required for new or existing stationary sources	Definitions and permit requirements for new or existing stationary sources	Added definitions from Ch. 20, some language updated
22.2	22.2	Processing permit applications	Processing permit applications	
22.3	22.3	Issuing permits	Issuing permits	
22.4	22.4	Special requirements for major stationary sources located in areas designated attainment or unclassified (PSD)	Major stationary sources located in areas designated attainment or unclassified (PSD)	
22.5	22.5	Special requirements for nonattainment areas	Major stationary sources located in areas designated Nonattainment	
22.6	22.6	Nonattainment area designations	Reserved	

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
22.7	22.7	Alternative emission control program	Alternative emission control program	
22.8	22.8	Permit by rule	Permit by rule	
22.9	22.9	Special requirements for visibility protection	Special requirements for visibility protection	A lot of language updated or removed
22.10	22.10	Permitting requirements for country grain elevators, country grain terminal elevators, grain terminal elevators and feed mill equipment	Permitting requirements for country grain elevators, country grain terminal elevators, grain terminal elevators and feed mill equipment	
28.1	22.11	Ambient air quality standards - Statewide standards	Ambient air quality standards	Moved from Ch. 28, minor language updated
22.12 to 22.99	N/A	Reserved	N/A	Removed

22.100 - 22.300(12)	**(New) 24**	**N/A**	**Operating Permits**	**Moved operating permit rules** from Ch. 22 to Ch. 24.
22.100	24.100	Definitions for Title V operating permits	Definitions for Title V operating permits	Moved from Ch. 22, some language updated, many 40 CFR 70 definitions adopted by reference
22.101	24.101	Applicability of Title V operating permit requirements	Applicability of Title V operating permit requirements	Moved from Ch. 22, some language updated to correct punctuation and remove old dates
22.102	24.102	Source category exemptions	Source category exemptions	Moved from Ch. 22, some language updated to correct punctuation
22.103	24.103	Insignificant activities	Insignificant activities	Moved from Ch. 22, some language updated to correct typos and remove old dates
22.104	24.104	Requirement to have a Title V permit	Requirement to have a Title V permit	Moved from Ch. 22, some language updated no changes to rule text
22.105	24.105	Title V permit applications	Title V permit applications	Moved from Ch. 22, updated language to address electronic submissions and remove past application due dates
22.106	24.106	Annual Title V emissions inventory	Annual Title V emissions inventory	Moved from Ch. 22, no changes to rule text
22.107	24.107	Title V permit processing procedures	Title V permit processing procedures	Moved from Ch. 22, some language updated to update locations of public records and remove old CFR amendment dates
22.108	24.108	Permit content	Permit content	Moved from Ch. 22, some language updated to correct punctuation, remove old dates, and adopt 40 CFR 70 rules by reference
22.109	24.109	General permits	General permits	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.110	24.110	Changes allowed without a Title V permit revision (off-permit revisions)	Changes allowed without a Title V permit revision (off-permit revisions)	Moved from Ch. 22, some language updated to remove redundant language
22.111	24.111	Administrative amendments to Title V permits	Administrative amendments to Title V permits	Moved from Ch. 22, no changes to rule text
22.112	24.112	Minor Title V permit modifications	Minor Title V permit modifications	Moved from Ch. 22, no changes to rule text
22.113	24.113	Significant Title V permit modifications	Significant Title V permit modifications	Moved from Ch. 22, no changes to rule text
22.114	24.114	Title V permit reopenings	Title V permit re-openings	Moved from Ch. 22 to Ch. 24, some language updated to adopt 40 CFR 70 rules by reference
22.115	24.115	Suspension, termination, and revocation of Title V permits	Suspension, termination, and revocation of Title V permits	Moved from Ch. 22, no changes to rule text
22.116	24.116	Title V permit renewals	Title V permit renewals	Moved from Ch. 22, no changes to rule text
22.117-22.119	24.117-24.119	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.120	24.120	Acid rain program—definitions	Acid rain program—definitions	Moved from Ch. 22, some language updated to remove old CFR amendment dates and address electronic submissions
22.121	24.121	Measurements, abbreviations, and acronyms	Reserved	Moved from Ch. 22, no changes to rule text
22.122	24.122	Applicability	Applicability	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.123	24.123	Acid rain exemptions	Acid rain exemptions	Moved from Ch. 22, some language updated to correct punctuation
22.124	24.124	Retired units exemption	Reserved	Moved from Ch. 22, no changes to rule text
22.125	24.125	Standard requirements	Standard requirements	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.126	24.126	Designated representative—submissions	Designated representative—submissions	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.127	24.127	Designated representative—objections	Designated representative—objections	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.128	24.128	Acid rain applications—requirement to apply	Acid rain applications—requirement to apply	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
22.129	24.129	Information requirements for acid rain permit applications	Information requirements for acid rain permit applications	Moved from Ch. 22, no changes to rule text
22.130	24.130	Acid rain permit application shield and binding effect of permit application	Acid rain permit application shield and binding effect of permit application	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.131	24.131	Acid rain compliance plan and compliance options—general	Acid rain compliance plan and compliance options—general	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.132	24.132	Repowering extensions	Reserved	Moved from Ch. 22, no changes to rule text
22.133	24.133	Acid rain permit contents—general	Acid rain permit contents—general	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.134	24.134	Acid rain permit shield	Acid rain permit shield	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.135	24.135	Acid rain permit issuance procedures—general	Acid rain permit issuance procedures—general	Moved from Ch. 22, no changes to rule text
22.136	24.136	Acid rain permit issuance procedures—completeness	Acid rain permit issuance procedures—completeness	Moved from Ch. 22, no changes to rule text
22.137	24.137	Acid rain permit issuance procedures—statement of basis	Acid rain permit issuance procedures—statement of basis	Moved from Ch. 22, no changes to rule text
22.138	24.138	Issuance of acid rain permits	Issuance of acid rain permits	Moved from Ch. 22, some language updated to remove old dates and deadlines
22.139	24.139	Acid rain permit appeal procedures	Acid rain permit appeal procedures	Moved from Ch. 22, no changes to rule text
22.140	24.140	Permit revisions—general	Permit revisions—general	Moved from Ch. 22, some language updated to remove old dates
22.141	24.141	Permit modifications	Permit modifications	Moved from Ch. 22, no changes to rule text
22.142	24.142	Fast-track modifications	Fast-track modifications	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.143	24.143	Administrative permit amendment	Administrative permit amendment	Moved from Ch. 22, some language updated to remove fax option
22.144	24.144	Automatic permit amendment	Automatic permit amendment	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.145	24.145	Permit reopenings	Permit re-openings	Moved from Ch. 22, language updated to adopt 40 CFR 70 rules by reference
22.146	24.146	Compliance certification—annual report	Compliance certification—annual report	Moved from Ch. 22, no changes to rule text
22.147	24.147	Compliance certification—units with repowering extension plans	Reserved	Moved from Ch. 22, no changes to rule text
22.148	24.148	Sulfur dioxide opt-ins	Sulfur dioxide opt-ins	Moved from Ch. 22, some language updated to update the 40 CFR Part 74 amendment date
22.149 - 22.199	24.149 - 24.299	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.200	24.200 - 24.299	Definitions for voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.201	24.200 - 24.299	Eligibility for voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.203	24.200 - 24.299	Voluntary operating permit applications	Reserved	Moved from Ch. 22, no changes to rule text
22.204	24.200 - 24.299	Voluntary operating permit fees	Reserved	Moved from Ch. 22, no changes to rule text
22.205	24.200 - 24.299	Voluntary operating permit processing procedures	Reserved	Moved from Ch. 22, no changes to rule text
22.206	24.200 - 24.299	Permit content	Reserved	Moved from Ch. 22, no changes to rule text
22.207	24.200 - 24.299	Relation to construction permits	Reserved	Moved from Ch. 22, no changes to rule text
22.208	24.200 - 24.299	Suspension, termination, and revocation of voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.209	24.200 - 24.299	Change of ownership for facilities with voluntary operating permits	Reserved	Moved from Ch. 22, no changes to rule text
22.210 - 22.299	24.200 - 24.299	Reserved	Reserved	Moved from Ch. 22, no changes to rule text
22.300	24.300	Operating permit by rule for small sources	Operating permit by rule for small sources	Moved from Ch. 22, no changes to rule text

23	23	Emission Standards	Air Emission Standards	Kept
23.1	23.1	Emission standards	Emission standards	Kept, language updated, tables used
23.2	23.2	Open burning	Open burning	Kept, some language updated
23.3	23.3	Specific contaminants	Specific contaminants	Kept, some language updated
23.4	23.4	Specific processes	Specific processes	Kept, some language updated
23.5	23.5	Anaerobic lagoons	Anaerobic lagoons	Kept, some language updated
23.6	23.6	Alternative emission limits (the “bubble concept”)	Reserved	Removed

Previous Chapter Number (Priorto 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
24	**(New) 21**	**Excess Emissions**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Moved operating permit rules** here (to Ch. 24)**.**
24.1	21.7	Excess emission reporting	Excess emission reporting	Moved from Ch. 24, some language updated
24.2	21.8	Maintenance and repair requirements	Maintenance and repair requirements	Moved from Ch. 24, some language updated
25	**(New) 21**	**Emissions Measurement**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 25. (Reserved)
25.1	21.10	Testing and sampling of new and existing equipment	Testing and sampling of new and existing equipment	Moved from Ch. 25, some language updated
25.2	21.11	Continuous emission monitoring under the acid rain program	Continuous emission monitoring under the acid rain program	Moved from Ch. 25, some language updated
25.3		Mercury emissions testing and monitoring	N/A	Rescinded. Except 25.3(5)
25.3(5)	21.12	Affected sources subject to Section 112(g)	Affected sources subject to Section 112(g)	Moved from Ch. 25, some language updated
26	**(New) 21**	**Emergency Air Pollution Episodes**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 26. (Reserved)
26.1	21.14	Prevention of air pollution emergency episodes - General	Prevention of air pollution emergency episodes	Moved from Ch. 26, some language updated
26.2	21.15	Episode criteria	Episode criteria	Moved from Ch. 26, some language updated
26.3	21.16	Preplanned abatement strategies	Preplanned abatement strategies	Moved from Ch. 26, some language updated
26.4	21.17	Actions taken during episodes	Actions taken during episodes	Moved from Ch. 26, some language updated
Ch 26 Table III	Table I	Abatement strategies emission reduction actions alert level	Abatement strategies emission reduction actions alert level	Moved from Ch. 26, reference federal appendix table
Ch 26 Table IV	Table II	Abatement strategies emission reduction actions warning level	Abatement strategies emission reduction actions warning level	Moved from Ch. 26, reference federal appendix table
Ch 26Table V	Table III	Abatement strategies emission reduction actions emergency level	Abatement strategies emission reduction actions emergency level	Moved from Ch. 26, reference federal appendix table
27	**27**	**Local Program Acceptance**	**Local Program Acceptance**	**Kept**
27.1	27.1	General	General	Kept, some language updated
27.2	27.2	Certificate of acceptance	Certificate of acceptance	Kept, some language updated
27.3	27.3	Ordinance or regulations	Ordinance or regulations	Kept, some language updated
27.4	27.4	Administrative organization	Administrative organization	Kept, some language updated
27.5	27.5	Program activities	Program activities	Kept, some language updated
28	**22**	**NAAQS**	**N/A**	**Moved rules and combined** with Ch. 22. **Rescinded** Ch. 28. (Reserved)
28.1	22.11	Ambient air quality standards - Statewide standards	Ambient air quality standards	**Moved from Ch. 28**, minor language updated **Rescinded** Ch. 28. (Reserved)
29	**(New) 21**	**Opacity Qualifications**	**Compliance, Excess Emissions, and Measurement of Emissions**	**Moved rules and combined** with Ch. 21. **Rescinded** Ch. 29. (Reserved)
29.1	21.13	Methodology and qualified observer	Methodology and qualified observer	Moved from Ch. 29, some language updated

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
30	**30**	**Fees**	**Fee**	**Kept**
30.1	30.1	Purpose	Purpose	Kept, language updated
30.2	30.2	Fees associated with new source review applications	Fees associated with new source review applications	Kept, some language updated
30.3	30.3	Fees associated with asbestos demolition or renovation notification	Fees associated with asbestos demolition or renovation notification	Kept, some language updated
30.4	30.4	Fees associated with Title V operating permits	Fees associated with Title V operating permits	Kept, some language updated
30.5	30.5	Fee advisory groups	Fee advisory groups	Kept, language updated
30.6	30.6	Process to establish or adjust fees and notification of fee rates	Process to establish or adjust fees and notification of fee rates	Kept, some language updated
30.7	30.7	Fee revenue	Reserved	Language removed

31	**31**	**Nonattainment Areas**	**Nonattainment New Source Review**	**Kept**
31.1	31.1	Permit requirements relating to nonattainment areas	Permit requirements relating to nonattainment areas	Kept, some language updated
31.2	31.2	Conformity of general federal actions to the Iowa state implementation plan or federal implementation plan - Rescinded	Reserved	Language removed
31.3	31.3	Nonattainment new source review requirements for areas designated nonattainment on or after May 18, 1998	Nonattainment new source review (NNSR) requirements for areas designated nonattainment	Kept, some language updated
31.4	31.4	Preconstruction review permit program	Preconstruction review permit program	Kept
31.5 - 31.8	31.5 - 31.8	Reserved	Reserved	Kept
31.9	31.9	Actuals PALs	Actuals PALs	Kept, some language updated
31.10	31.10	Validity of rules	Validity of rules	Kept
31.11 - 31.19	N/A	Reserved	N/A	Rescinded and removed
31.20	N/A	Special requirements for nonattainment areas designated before May 18, 1998	N/A	Rescinded and removed

32	**N/A**	**AFO Field Study**	**N/A**	**Rescinded** Ch. 32. (Reserved)
32.1	N/A	Animal feeding operations field study	N/A	Rescinded, reserved, and language removed
32.2	N/A	Definitions	N/A	Rescinded, reserved, and language removed
32.3	N/A	Exceedance of the health effects value (HEV) for hydrogen sulfide	N/A	Rescinded, reserved, and language removed
32.4	N/A	Exceedance of the health effects standard (HES) for hydrogen sulfide	N/A	Rescinded, reserved, and language removed
32.5	N/A	Iowa Air Sampling Manual	N/A	Rescinded, reserved, and language removed

33	**33**	**Special regulations and construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD) of air quality**	**Construction permit requirements for major stationary sources—Prevention of significant deterioration (PSD)**	**Kept**
33.1	33.1	Purpose	Purpose	Kept, some language updated
33.2	33.2	Reserved	Reserved	Kept
33.3	33.3	Special construction permit requirements for major stationary sources in areas designated attainment or unclassified (PSD)	PSD construction permit requirements for major stationary sources	Kept, some language updated
33.4 - 33.8	33.4 - 33.8	Reserved	Reserved	Kept
33.9	33.9	Plantwide applicability limitations (PALs)	Plantwide applicability limitations (PALs)	Kept, some language updated
33.10	33.10	Exceptions to adoption by reference	Exceptions to adoption by reference	Kept, some language updated

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
34	**N/A**	**Emissions Trading-CAIR-CAMR**	**N/A**	**Rescinded** Ch. 34. (Reserved)
34.1	N/A	Purpose	N/A	Rescinded, reserved, and language removed
34.2 - 34.199	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.200	N/A	Provisions for air emissions trading and other requirements for the Clean Air Interstate Rule (CAIR) - rescinded	N/A	Rescinded, reserved, and language removed
34.201	N/A	CAIR NOx annual trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.202	N/A	CAIR designated representative for CAIR NOx sources - rescinded	N/A	Rescinded, reserved, and language removed
34.203	N/A	Permits - rescinded	N/A	Rescinded, reserved, and language removed
34.204	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.205	N/A	CAIR NOx allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.206	N/A	CAIR NOx allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed
34.207	N/A	CAIR NOx allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.208	N/A	Monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.209	N/A	CAIR NOx opt-in units - rescinded	N/A	Rescinded, reserved, and language removed
34.210	N/A	CAIR SO2 trading program - rescinded	N/A	Rescinded, reserved, and language removed
34.211 - 34.219	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.220	N/A	CAIR NOx ozone season trading program - rescinded	N/A	Rescinded, reserved, and language removed
34.221	N/A	CAIR NOx ozone season trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.222	N/A	CAIR designated representative for CAIR NOx ozone season sources - rescinded	N/A	Rescinded, reserved, and language removed
34.223	N/A	CAIR NOx ozone season permits - rescinded	N/A	Rescinded, reserved, and language removed
34.224	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.225	N/A	CAIR NOx ozone season allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.226	N/A	CAIR NOx ozone season allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed
34.227	N/A	CAIR NOx ozone season allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.228	N/A	CAIR NOx ozone season monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.229	N/A	CAIR NOx ozone season opt-in units - rescinded	N/A	Rescinded, reserved, and language removed
34.230 - 34.299	N/A	Reserved	N/A	Rescinded, reserved, and language removed
34.300	N/A	Provisions for air emissions trading and other requirements for the Clean Air Mercury Rule (CAMR) - rescinded	N/A	Rescinded, reserved, and language removed
34.301	N/A	Mercury (Hg) budget trading program general provisions - rescinded	N/A	Rescinded, reserved, and language removed
34.302	N/A	Hg designated representative for Hg budget sources - rescinded	N/A	Rescinded, reserved, and language removed
34.303	N/A	General Hg budget trading program permit requirements - rescinded	N/A	Rescinded, reserved, and language removed
34.304	N/A	Hg allowance allocations - rescinded	N/A	Rescinded, reserved, and language removed
34.305	N/A	Hg allowance tracking system - rescinded	N/A	Rescinded, reserved, and language removed

Previous Chapter Number (Prior to 5/15/2024)	Current Chapter Number	Previous Title and Description (Prior to 5/15/2024)	Current Title and Description	Actions Taken
34.306	N/A	Hg allowance transfers - rescinded	N/A	Rescinded, reserved, and language removed
34.307	N/A	Monitoring and reporting - rescinded	N/A	Rescinded, reserved, and language removed
34.308	N/A	Performance specifications - rescinded	N/A	Rescinded, reserved, and language removed
35	**N/A**	**Grant Assistance Programs**	**N/A**	**Rescinded** Ch. 35. (Reserved)
35.1	N/A	Purpose	N/A	Rescinded, reserved, and language removed
35.2	N/A	Definitions	N/A	Rescinded, reserved, and language removed
35.3	N/A	Role of the department of natural resources	N/A	Rescinded, reserved, and language removed
35.4	N/A	Eligible projects	N/A	Rescinded, reserved, and language removed
35.5	N/A	Forms	N/A	Rescinded, reserved, and language removed
35.6	N/A	Project selection	N/A	Rescinded, reserved, and language removed
35.7	N/A	Funding sources	N/A	Rescinded, reserved, and language removed
35.8	N/A	Type of financial assistance	N/A	Rescinded, reserved, and language removed
35.9	N/A	Term of loans	N/A	Rescinded, reserved, and language removed
35.10	N/A	Reduced award	N/A	Rescinded, reserved, and language removed
35.11	N/A	Fund disbursement limitations	N/A	Rescinded, reserved, and language removed
35.12	N/A	Applicant cost share	N/A	Rescinded, reserved, and language removed
35.13	N/A	Eligible costs	N/A	Rescinded, reserved, and language removed
35.14	N/A	Ineligible costs	N/A	Rescinded, reserved, and language removed
35.15	N/A	Written agreement	N/A	Rescinded, reserved, and language removed
35.16	N/A	Financial assistance denial	N/A	Rescinded, reserved, and language removed

Iowa Department of Natural Resources
Draft Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 24.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

1. Climax Molybdenum Company, located at 2598 Highway 61, Fort Madison, IA 52627 has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Dravin Mahes.
2. Climax Molybdenum Company is a primary nonferrous metals (except aluminum) smelting and refining facility. This facility consists of 62 emission units with potential emissions of:

Pollutant	**Abbreviation**	**Potential Emissions (Tons per Year)**
Particulate Matter (≤ 2.5 μm)	$PM_{2.5}$	66.59
Particulate Matter (≤ 10 μm)	PM_{10}	66.59
Particulate Matter	PM	78.52
Sulfur Dioxide	SO_2	462.75
Nitrogen Oxides	NO_x	87.82
Volatile Organic Compounds	VOC	31.24
Carbon Monoxide	CO	45.95
Lead	Lead	0.01
Hazardous Air Pollutants [(1)]	HAP	0.97

[(1)] May include the following: Formaldehyde, Hexane.

3. Climax Molybdenum Company submitted a Title V Operating Permit renewal application on December 11, 2020. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107.
4. DNR has complied with the procedures set forth in 567 IAC 24.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.

DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from June 18, 2026 through July 18, 2026. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown below. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.
2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Derek Wedemeier at the DNR address shown below.
3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the renewal application. The responsiveness summary and the final permit will be available to the public upon request.

   DEREK WEDEMEIER
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   Phone: (515) 725-9520
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DNR concludes that:

1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 21-33, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.
3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 21-33.
4. DNR is required to comply with 567 IAC Chapter 24 in conjunction with issuing a Title V Operating Permit.
5. The issuance of this permit does not preclude the DNR from pursuing enforcement action for any violation.

Title V Application Review Notes

Applicant:	Climax Molybdenum Company
SIC Code:	3339(Primary nonferrous metals) & 2819(Industrial inorganic chemicals)
City:	Fort Madison
County:	Lee
EIQ#:	92-0970
Facility#:	56-02-021
Permit#:	03-TV-001R3
Reviewer:	Derek Wedemeier
Date:	**DATE**

Facility Identification

Facility Name:	Climax Molybdenum Company
Facility Location:	2598 Highway 61, Fort Madison, IA 52627
Contact Person:	David Caskey
Phone:	(319) 463-2245

Background

Climax Molybdenum Company has applied for a Part 70 renewal Title V Operating Permit. The facility roasts and processes Molybdenum. The renewal Title V application was received December 11, 2020. Modification applications were submitted on May 5, 2022, January 6, 2023, and January 26, 2023. This is the 3rd Renewal of the Title V Permit.

Regulatory Status:

Pollutant	Major for Title V?
PM_{10}	☐
SO_2	☒
NO_x	☐
VOC	☐
CO	☐
Lead	☐
Individual HAP	☐
Total HAPs	☐

Program Applicability:

- ✓ PSD: Yes – Source Category 23 – Chemical Process Plants (secondary activity)
- ✓ Part 61 NESHAP: No
- ✓ NSPS: Yes – IIII: Stationary Compression Ignition Internal Combustion Engines
- ✓ Part 63 NESHAP: Yes – ZZZZ: Stationary Reciprocating Internal Combustion Engines, CCCCCC: Gasoline Dispensing Facilities (Area Sources)
- ✓ Acid Rain: No
- ✓ Stratospheric Ozone Protection: Yes
- ✓ Prevention of Accidental Releases: Yes
- ✓ CAM: Yes

Construction Permits:

New and updated construction permit numbers and the corresponding emission unit descriptions have been included in the table below. A complete equipment list can be found on pp. 4-8 of the permit.

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP3	R2A	MoS_2 Fugitive Rail Unloading	NA
EP6	T1	Sulfuric Acid Storage Tank North (325,000 gallon)	02-A-659-S1
EP7	T2	Sulfuric Acid Storage Tank South (325,000 gallon)	02-A-660-S1
ST1	B1	Natural Gas Boiler #1	99-A-833-S1
ST2	B2	Natural Gas Boiler #2	99-A-834-S1
ST3	B3	Fire Pump Diesel Engine (200 hp, existing)	99-A-835-S1
ST7	E2	Pure Oxide Product Screening & Packaging	75-A-016-S2
ST8	E3	ADM/PO Calciner #1	74-A-017-S10
	E3b	AMD/PO Calciner #2	
ST20	See permit	Roasters #1 and #2	95-A-273-S3
ST43	R15	Roaster Burner #1	02-A-626-S2
ST51	R16	Roaster Burner #2	02-A-267-S
ST31	R12	Natural Gas Sulfur Furnace Startup Burner	02-A-625-S2
ST60	SX1	Rhenium Solvent Extraction A Train E1	01-A-998-S1
	SX2	Rhenium Solvent Extraction A Train E2	
	SX3	Rhenium Solvent Extraction B Train E1	
	SX4	Rhenium Solvent Extraction B Train E2	
	SX5	Rhenium Solvent Extraction S1	
	SX6	Rhenium Solvent Extraction S2	
	SX7	Rhenium Solvent Extraction Barren Organic Tank	
	SX8	Rhenium Solvent Loaded Organic Tank	
	SX9	Rhenium Solvent Extraction Raffinate Tank	
	SX10	Rhenium Solvent Extraction Loaded Solution Tank	
	NMLT	North Mother Liquid Tank (32,000 gallon)	NA
	SMLT	South Mother Liquid Tank (32,000 gallon)	NA
ST62	E14	Neutralization Reactor A	19-A-124-S1
ST63	E15	Neutralization Feed Tank	19-A-125
	NASH1	20K Tank	
	NASH2	NaHS Tank	
ST65	GEN10	Generator #10	20-A-054
ST66a		Generator #10 Crankcase	20-A-055
ST66b		Generator #10 Crankcase	20-A-056

Emission Estimates: PTE

$PM_{2.5}$ (tpy)	PM_{10} (tpy)	PM (tpy)	SO2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (typ)	Lead (tpy)	Total HAP (tpy)
66.59	66.59	78.52	462.75	87.82	31.24	45.95	0.01	0.97

Actual Emissions (2024)

$PM_{2.5}$ (tpy)	PM_{10} (tpy)	PM (tpy)	SO2 (tpy)	NO_X (tpy)	VOC (tpy)	CO (typ)	Lead (tpy)	Total HAP (tpy)
18.93	20.40	23.02	243.55	27.96	1.64	21.78	0.003	0.41

General Conditions:

General Changes

- Permit contact and contact information has been updated.
- Responsible official and contact information updated.
- Emissions Points ST9, ST34, and ST45 have been removed. Associated construction permits 97-A-137-S2 (ST9) & 06-A-842 (ST34) were rescinded on 10/25/2021 and 02-A-906 (ST45) was rescinded on 7/11/2018.
- Several emission units were added to the Insignificant Activities Equipment list.
- Page numbers have been updated.
- The facility is schedule to submit a modification during the public comment period to update the RO to match what is listed in the Draft Permit and submit additional information included in the Draft.

Emission Points and Units

- Tank T4 (Oil/Water Separating Tank) was constructed in 1975 and has a tank capacity of 12,000 gallons. Therefore, it is not subject to any NSPS Subparts K, Ka, or Kb.
- Tank T5 (Main Fuel Oil Tank) was constructed in 1975 and has a tank capacity of 300,000 gallons. This tank stores #2 Fuel Oil only. This tank is exempted from NSPS Subpart K because #2 Fuel Oil is not considered to be a "petroleum liquid."

Applicable Requirements

1. The three boilers located at the facility are not subject to any NSPS requirements.
   - Boilers #1 and #2 were constructed in 1975 and have input ratings < 250 MMBtu/hr. Therefore, they are not subject to Subpart D.
2. This facility is subject to the Stratospheric Ozone requirements.
3. The two boilers are of the source category that are covered by 40 CFR 63 Subpart JJJJJJ. The boilers do have the capability to burn fuel oil as a backup fuel. These boilers do meet the definition of gas-fired boilers, and therefore are not subject to this subpart.
4. The Sulfuric Acid plant is considered a control device, therefore it is not subject to 40 CFR Part 60 Subpart H. The determination was made as part of DNR Project 00-235 (see Appendix D.
5. EP ST3 – Fire Pump Diesel Engine is subject to 40 CFR 63 Subpart ZZZZ as an emergency RICE. ENG1, ENG2, ENG3, ENG4 are also subject to NESHAP ZZZZ.

6. Generators 6 through 10 are considered new, non-emergency RICE engines by 40 CFR 63 Subpart ZZZZ. These engines must comply with this subpart by complying with the requirements from 40 CFR 60 Subpart IIII.
7. Generator 10 is subject to 40 CFR 60 Subpart IIII as a non-emergency stationary compression ignition internal combustion engine.
8. GASTK is subject to NESHAP CCCCCC.

ST3 – Fire Pump Engines

Operating condition 7a., 7b., and 7c. of 99-A-835-S1 require maintenance to be completed after a certain duration or annually. This requirement was from NESHAP ZZZZ. The NESHAP was updated 8/30/2024 changing "annually" to "1 year +30 days". The requirement in the title have been updated to match the NESHAP. This has also been updated for ENG1 – ENG4.

ST6 – MoO_3 Unload to Storage Bin

Periodic monitoring was determined using 1,200 hr of operation. This is based on a maximum throughput of 15,000 tons per rolling 12-month period and a rated capacity of 12.5 tons/hr. Based on these values, precontrol emission do not exceed the major source threshold so CAM does not apply and testing is not recommended. Operating conditions meet the requirements of a Facility O&M.

ST7- Pure Oxide Product Screening and Packaging

Facility provided CAM calculations use 1994 stack test data when determining applicability. The emission factor referenced is 0.044 lb/ton. CAM does not apply because precontrol emission do not exceed the major source threshold using these values. Period monitoring guidance recommends 1 Test for PM when using the permitted PM emission limit. Testing will be required since this unit has not been tested in 32 years. The operating conditions meet the requirements of a Facility O&M Plan.

ST 8 – Calciners

DNR field office staff noted the construction permit for ST8 may be incorrectly numbered during the 2023 inspection records review. Historical versions of the construction permit include both **75**-A-017-S# and **74**-A-017-S#. The initial permit was issued as 75-A-017. The current construction permit is labeled as 74-A-017-S10. This is how it has been included in the Title V permit. Application documents reference ST64 - AMD/PO Calciner #2 Natural Gas. It appears this was used to differentiate natural gas emission for E3b/ST64. This emission point was not included in the permit. The construction permit references ST67-AER System in the emission point characteristics section. The facility stated this is unpermitted because only exempt units (SUE) or units that only vents water vapor and ammonia vent to this stack. Climax has received documentation from the DNR construction permitting group that confirms this so it is not listed elsewhere in the Title V.

ST10 – AHM/ADM Dryer

Periodic Monitoring was determined using the throughput limit of 1,830 tons in any rolling 12-month period. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST11 – Drying, Screening, Packaging.
Periodic Monitoring was determined using the throughput limit of 1,900 tons in any rolling 12-month period. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST13 – MoS_2 Transfer
Periodic Monitoring was determined using the throughput limit of 41,000 tons in any rolling 12-month period and a rated capacity of 90 tons/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST14 – Molybdenite Concentration Unload
Periodic Monitoring was determined using the throughput limit of 41,000 tons in any rolling 12-month period and a rated capacity of 100 tons/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST15 – MoO_3 Transfer from Roaster to Bin
Facility provided CAM calculations data from 1977 when determining applicability. The emission factor referenced is 0.022 lb/ton. CAM does not apply because precontrol emission do not exceed the major source threshold using these values. Period monitoring guidance recommends 1 Test for PM when using the permitted emission limit. Testing will be required since this unit has not been tested in several decades. The operating conditions meet the requirements of a Facility O&M Plan.

ST16 – MoS_2 Transfer
Periodic Monitoring was determined using the throughput limit of 41,000 tons in any rolling 12-month period and a rated capacity of 90 tons/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST18 – Lime Dust Unload
Periodic Monitoring was determined using the throughput limit of 1,100 tons in any rolling 12-month period and a rated capacity of 5 tons/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST19 – Lime Transfer to Silo
Periodic Monitoring was determined using the throughput limit of 1,850 tons in any rolling 12-month period and a rated capacity of 20 tons/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or

PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST20 & ST21 – Roasters and Bypass

ST20

ST20 exceeded the hourly SO_2 emission rate of 105lb/hr during a testing on 10/29 & 10/30/2019. SO_2 results were 135.25lb/hr. Climax retested on 1/21/2020 resulting in a passing emission limit. However, production was much lower than the initial test. A letter of noncompliance was issued 2/25/2020. The facility submitted a compliance plan on 3/27/2020. The source was retested 7/2/2020 and failed. Retesting was completed on 6/15/2021 and passed. PM and PM10 testing were required by 95-A-273-S3 within 90 days of permit issuance but was granted a variance to extend the deadline. Testing was completed the week of 2/2/2026. Results have not been reviewed by the DNR at this time so the testing requirements remain in the permit.

Administrative consent order 24-AQ-15 and 24-AQ-S1 were issued for various reasons regarding SO_2 emissions. The construction permit was modified to include the requirements of this order including the addition of SO_2 CEMS and flow meter that is capable of measuring of SO_2 on a mass basis. An operation and maintenance plan was also included. The order and O&M plan are included the permit appendix.

Construction permit requirements 5.A. and 5.B. were not included under ST20 and were specifically listed with EP21. Climax requested these emission points be split out. The facility intends to modify construction permit 95-A-273-S3 to increase rated capacity, replace equipment with like units, and clarify some regulatory language. These changes will require a TV permit modification following the construction permit updates.

ST21

ST21 is the emergency bypass stack for the Molybdenum Roasters. This stack has a fan that pulls all the SO_2 emissions out of the roasters during an unexpected shutdown of the acid plant. In the case that the fan on ST21 malfunctions, fugitive emissions will escape from the roasters through many areas. This stack is subject to the statewide SO_2 standard of $500ppm_v$. In the event of bypass venting, compliance with the $500ppm_v$ emission limit is verified with reporting and mass balance calculations required by construction permit 95-A-273-S3.

Construction permit 95-A-273-S3 specifies the requirements of bypass stack ST21. If EP ST21 is used five or more times in a calendar year, the owner or operator shall submit an Air Quality Construction Permit application within 90 days of triggering the permit requirement. The application shall request a permit for EP ST21 and its associated emission units. During the Title V permitting process Climax expressed interest in permitting ST21 individually and requested to separate ST21 from ST20 in the Title V permit body.

ST23 – Sublimed Oxide Furnace #1

CAM applies to CD19, baghouse for PM. According to emission inventory reporting the last stack test for this unit was completed in 2004. Stack testing will be required for PM during this renewal. This emission factor has also been used for ST24. CAM and testing similarly apply to ST24 as well.

ST25 – Molysulfide Kiln and Afterburner
CAM applies to the ESP, Baghouse, and Scrubber. The most recent stack test was completed in 2000 and passed at an average of 0.12 lb/hr for PM. Stack testing will be required for PM and PM10 during this renewal.

ST43 & ST51 – Roasters
Construction permits 02-A-626-S2 and 02-A-627-S2 were modified and issued on 8/6/2025 to clarify operation limits. These emission points shall only be used during ore roaster preheating and are limited to 720 hours per emission point.

ST28 – AOM Dryer
Periodic Monitoring was determined using the throughput limit of 1,200 tons in any rolling 12-month period and a rated capacity of 680 lbs/hr. Based on this limit, precontrol emission do not exceed the major source threshold. Periodic monitoring does not recommend testing for PM or PM_{10} during this renewal. CAM does not apply. Operating conditions meeting the requirements of a Facility O&M Plan.

ST31 – NG Sulfur Furnace Startup Burner
This unit is limited to natural gas only and 150 hours permit 12-month rolling period.

ST32- ADM Dryer
Facility provided CAM calculations use 2004 stack test data when determining applicability. The emission factor referenced is 0.057 lb/ton. CAM does not apply because precontrol emission do not exceed the major source threshold using these values. Period monitoring guidance recommends 1 Test for PM when using the permitted emission limit. Testing will be required since this unit has not been tested in 22 years. The operating conditions meet the requirements of a Facility O&M Plan.

ST61 – AST Downgrade Dryer
This unit was previously tested for PM in 2015. The test result average was 0.36lb/hr, 55% of the emission limit. Facility provided CAM calculations use this value when determining CAM applicability. CAM applies to CE-41 for PM. Periodic monitoring guidance recommends one test for PM and will be required during this renewal.

ST62 – Neutralization Reactor A
The construction permit was modified to correct the stack discharge to downward. Periodic monitoring recommends a Facility O&M for the scrubbers. Precontrol emission do not exceed the major source threshold so testing and CAM does not apply during this renewal.

ST63 – Feed Tanks
Periodic monitoring recommends a Facility O&M for the scrubbers and one test for H_2S. Operating conditions meet the requirements of a Facility O&M so no additional O&M Plan will be required during this renewal. Precontrol emissions exceed the major source threshold according to facility provided emission calculations. The operating requirements of the permit are CAM equivalent. One test for H_2S will be required to demonstrate compliance with the 0.35 lb/hr emission limit.

Periodic Monitoring

Facility O&M & Stack Test

Emission Point	Pollutant	Control Equipment
ST7[(1)]	PM	CD2: Baghouse
ST8[(2)(3)]	PM&PM_{10}	CD3/CD3b: Baghouse
ST15[(1)]	PM	CD8: Baghouse
ST23[(2)]	PM	CD19: Baghouse
ST24[(2)]	PM	CD20: Baghouse
ST25[(2)]	PM&PM_{10}	CD15, CD39, & CD16 or CD40: ESP, ESP, Baghouse
ST32[(1)]	PM	CD22: Baghouse
ST61[(2)]	PM	CE-41: Baghouse
ST62 – No Test	H_2S	CD44, CD45: Dry Scrubber – Facility O&M Only
ST63[(1)]	H_2S	CD46, CD47, or CD13 – Packed Bed & Dry Scrubber

(1) Operating conditions meet the requirements of a Facility O&M. The Facility O&M checkbox has been marked as "No" in the permit.

(2) The CAM plans submitted with the application for Baghouses and ESPs satisfy the Facility O&M Periodic Monitoring requirement. The Facility O&M checkbox has been marked as "No" in the permit.

(3) This emission point was last tested on 1/26/2016. Test results indicated emissions were near 80% of the emission limit. Therefore, one (1) test will be required again during this permitting period.

Stack Tests.

ST20: The most recent SO_2 stack tests were completed on 7/2/2020 and 6/15/2021. A construction permit modification was completed to update operating conditions for additional SO_2 monitoring. One time testing for PM and PM10 were included as part of the permit modification as well. Testing was completed the week of 2/2/2026 and has not been reviewed by IDNR at this time.

Compliance Assurance Monitoring (CAM)

The pieces of control equipment associated with the following emission points are required to have Compliance Assurance Monitoring (CAM) plans because the associated emission units have potential uncontrolled emissions of greater than 100 tons per year.

- ST8 – PM & PM_{10}
- ST20 – PM, PM_{10}, & SO_2[(1)]
- ST23 – PM
- ST24 – PM
- ST25 – PM & PM_{10}
- ST61 – PM

(1) CEMS requirements satisfy the CAM requirement for SO_2.

Mass Balance SO2 Calculation

-(average feed rate *lbs/min* *60 *minutes* *24 *hours*)= Roaster Production Rate

-[(Roaster Production Rate/3)*(1-Length of roaster shutdown/480 Min *8 hours*)= Total Mo in Roaster

-(Roaster SO2 Generation Lbs *roaster test data*)* (0.75 *25% S not converted to SO2 due to low O2*)=Potential Roaster SO2 Generation Lbs

-(Potential Roaster SO2 Generation Lbs)*(0.7 *30% SO2 reduction from scrubber water*)= Potential SO2 Emission Lbs

-2*(Potential SO2 Emission Lbs)/480 Min *8 hours)*(1-* Length of roaster shutdown/480 Min *8 hours*)= Upset Initial Emission Rate (Lb/Min So2)

-IF(0- Upset Initial Emission Rate (Lb/Min So2)*Length of Acid Plant Shutdown *Min)* /480 Min)*(1-Length of roaster shutdown/480 Min *8 hours*)+ Upset Initial Emission Rate (Lb/Min So2)<0,0(0-Upset Initial Emission Rate (Lb/Min So2))* Length Of Acid Plant Shutdown (Min)/480 Min(1- Length Of Roaster Shutdown/480 Min *8 Hours*)+ Upset Initial Emission Rate (Lb/Min So2)=Emission Rate At End Of Upset Period Lb/Min So2

-If(Upset Initial Emission Rate (Lb/Min So2)+ Emission Rate At End Of Upset Period Lb/Min So2/2* Length Of Acid Plant Shutdown *Min*)> Potential So2 Emission *(Lb),* Potential So2 Emission *(Lb),* [(Upset Initial Emission Rate (Lb/Min So2)+ Emission Rate At End Of Upset Period Lb/Min So2/2]=Total SO2 Emitted Lbs

-(Total SO2 Emitted Lbs)*(Length of Acid Plant Shutdown *Min)*=Upset Avg SO2 Emission Rate (lb/Min)

Lbs per hour to ppmv conversion

Given:
acfm total airflow thru stack 21
exhaust temperature (^{0}F)
lbs. SO2 per lb-molecular wt.
Lb's SO2/HR *Upset Avg SO2 Emission rate*
Gas constant
Pressure
Calculate:
Ideal Gas Law
PV= nRT
V=nRT/P
(Emission Rate Lbs Hr/ Molecular Weight SO2 per lb-mol)* Exhaust Temp K/1 atm* Gas Constant cf/lb mol=CF SO2/HR
acfm total airflow thru stack 21*60= TOTAL CF/HR total airflow thru stack
(CF SO2/HR * TOTAL CF/HR total airflow thru stack) *1000000= PPM vol SO2