

**Iowa Department of Natural Resources  
Title V Operating Permit**

**Name of Permitted Facility: Wellman Dynamics**  
**Facility Location: 1746 Commerce Road, Creston, IA 50801**  
**Air Quality Operating Permit Number: 99-TV-018R3**  
**Expiration Date: August 21, 2022**  
**Permit Renewal Application Deadline: February 21, 2022**

**EIQ Number: 92-5380**  
**Facility File Number: 88-01-002**

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**Responsible Official**

**Name: Danette Grim**  
**Title: President**  
**Mailing Address: 1746 Commerce Road, Creston, IA 50801**  
**Phone #: (641) 782-0310**

**Permit Contact Person for the Facility**

**Name: Matt Thelen**  
**Title: Environmental Engineer**  
**Mailing Address: 1746 Commerce Road, Creston, IA 50801**  
**Phone #: (641) 782-0283**

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

**For the Director of the Department of Natural Resources**



Lori Hanson, Supervisor of Air Operating Permits Section

8/22/17

Date

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## Abbreviations

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

### Pollutants

PM.....	particulate matter
PM <sub>10</sub> .....	particulate matter ten microns or less in diameter
SO <sub>2</sub> .....	sulfur dioxide
NO <sub>x</sub> .....	nitrogen oxides
VOC.....	volatile organic compound
CO.....	carbon monoxide
HAP.....	hazardous air pollutant

# I. Facility Description and Equipment List

Facility Name: Wellman Dynamics

Permit Number: 99-TV-018R3

Facility Description: Aluminum Foundries (SIC 3369)

## Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
1	1-1	OMCO Mixer	85-A-055-S6
	6-1	450 Mixer	
	15-1	Palmer Mixer	
	16-1	250 Mixer	
	28-1	Wheelabrator Shot Blast Cabinet	
	15-2	Silo C	
	15-3	Silo D	
1A	15-1	Palmer Mixer	07-A-735-S2
	15-2	Sand Silo C	
2	2-1	South Bench Core Station	99-A-576-S4
	2-2	SANBLO Core Station	
	82-1	Gaylord Core Blower	
	83-1	ABC Core Blower	
	90-1	Redford Core Blower	
	91-1	CB-10	
	92-1	CB-5	
3	71-1	Silo A	99-A-144-S3
	72-1	Silo B	
5	18-1	Chill Spray Booth	99-A-784-S5
10	31-1	Shakeout/Lump Reduction	88-A-040-S3
	32-1	Calciner	
	33-1	Cooler/Classifier	
	68-1	EDC Silo G	
	69-1	EDC Silo H	
	29-1	EDC Mixer	
11	34-1	Laempe Core Blower	99-A-145-S6
	35-1	Laempe Core Blower	
12	36-1	West Pattern Room Wood Working	99-A-577
13	37-1	Outer Pattern Room Wood Working	99-A-578
14	39-1	Wheelabrator Blast Cabinet	85-A-054-S3
	40-1	Sand Reclamation Unit	
15	41-1	Saw Room Sand Blast	83-A-067-S2
	56-1	Grit Blast Wheelabrator	
18	45-2	Wheelabrator Blast Cabinet	01-A-771-S2
	55-1	Pangborn Mini Cabinet	

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
19A 19B	57-1a	Acid Dip Tank 1	07-A-738-S2 07-A-739-S2
	57-1b	Acid Dip Tank 2	
	57-1c	Acid Dip Tank 3	
	57-1d	Acid Dip Tank 4	
	57-1e	Acid Dip Tank 5	
	57-1f	Acid Dip Tank 6	
	57-1g	Acid Dip Tank 7	
	57-1h	Acid Dip Tank 8	
	57-1i	Acid Dip Tank 9	
23	74-1	Silo E	99-A-146-S2
	75-1	Silo F	
23A	74-1	Silo E	04-A-039-S1
59	59-1	Welding Stations	99-A-147
81	81-1	Inhibitor Tumbler	07-A-740-S2
82	2-1	South Bench Core Stations	12-A-039-S2
	2-2	SANBLO Core Stations	
	82-1	Gaylord Core Blower	
	83-1	ABC Mixer	
	90-1	Redford Core Blower	
	91-1	CB-10	
	92-1	CB-5	
EF-1	84-1 85-1	Metal Pouring Mold Cooling	07-A-741-S2
EF-2			07-A-742-S2
EF-3			07-A-743-S2
EF-4			07-A-744-S2
EF-5			07-A-745-S2
EF-6			07-A-746-S2
EF-7			07-A-747-S2
EF-8			07-A-748-S2
EF-9			12-A-040-S1
EF-10			07-A-749-S2
EF-11			07-A-750-S2
EF-12			12-A-041-S1
EF-35			12-A-042-S1
EF-36			12-A-043-S1
EF-13			86-1*
EF-14			
EF-15			
EF-18	24-1	Magnesium Tilter/Pot Furnaces (18)	07-A-751-S2
EF-19			07-A-752-S2
EF-20			07-A-753-S2
EF-21			07-A-754-S2
EF-32			07-A-755-S2
EF-24	EF-24	Heat Treat 1	07-A-756
	EF-26	Heat Treat 2	
EF-26	EF-27	Heat Treat 3	07-A-757
EF-27			07-A-758

<b>Emission Point Number</b>	<b>Emission Unit Number</b>	<b>Emission Unit Description</b>	<b>IDNR Construction Permit Number</b>
BLDG F (Vent Internally)	4-1	East Cell Mixer	07-A-759-S3
	11-1	SO2 Core Making Machine	
	38-1	Old Knockout	
	47-1	West Cell Mixer	
	50-1	Cleaning and Grinding Room	
	88-1	Tinker Omega Mixer	
	93-1	300 Mixer	

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### Insignificant Activities Equipment List

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<b>Insignificant Emission Unit Number</b>	<b>Insignificant Emission Unit Description</b>
WH1-1	Water Heater < 10 MMBtu
WH1-2	Water Heater < 10 MMBtu
WH1-3	Water Heater < 10 MMBtu
WH1-4	Water Heater < 10 MMBtu
WH1-5	Water Heater < 10 MMBtu
WH1-6	Water Heater < 10 MMBtu
WH1-7	Water Heater < 10 MMBtu
WH1-8	Water Heater < 10 MMBtu
WH1-9	Water Heater < 10 MMBtu
WH2-1	Water Heater - Water Treatment < 10 MMBtu
49-1*	Core Drying Oven
F1-1	Furnace (9 all < 2 MMBtu/hr)
MU1-1	Air Makeup Unit Burner (10 all < 1MMBtu/hr)
UH1-1	Unit Heaters (45 all < 1 MMBtu/hr)
102-1*	Core Smoke Check
103-1*	Mudding Compound
104-1*	Core Coating
105-1*	Core Wash
106-1*	Mold/Core Release
107-1*	Electric Bakeout Oven
108-1*	Electric Bakeout Oven
109-1*	Zyglo Penetrant Dip
80-1*	Zyglo Powder Film Developer
30-1*	Aluminum Melt Pressure Pourer

\* Emission Units qualify for Small Unit Exemption under 567 IAC 22.1(2)"w". Records shall be kept in accordance with 567 IAC 22.1(2)"w"(3).

## II. Plant-Wide Conditions

Facility Name: Wellman Dynamics  
Permit Number: 99-TV-018R3

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

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### Permit Duration

The term of this permit is: 5 years  
Commencing on: August 22, 2017  
Ending on: August 21, 2022

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

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### 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<sub>2</sub>): 500 parts per million by volume  
Authority for Requirement: 567 IAC 23.3(3)"e"

#### Particulate Matter:

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

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

Fugitive Dust: Attainment and Unclassified Areas - A person shall take reasonable precautions to prevent particulate matter from becoming airborne in quantities sufficient to cause a nuisance as defined in Iowa Code section 657.1 when the person allows, causes or permits any materials to be handled, transported or stored or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, with the exception of farming operations or

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

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizer or limestone.
4. Covering, at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.
6. Reducing the speed of vehicles traveling over on-property surfaces as necessary to minimize the generation of airborne dusts.

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

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### **NESHAP**

This facility is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZZZ – Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries (40 CFR §63.11544 through 40 CFR §63.11558) as this facility meets the definition of an area source aluminum foundry.

Per 40 CFR Part 63.11550(a)(1) through (3) the facility must cover or enclose melting furnaces during the melting process, purchase scrap that has been depleted of hazardous metals to the extent possible, and prepare and operate according to a written management practices plan. The facility must also keep the records specified in paragraphs 40 CFR Part 63.11553(c), (d), and (e).

Authority for Requirement: 40 CFR 63 Subpart ZZZZZZ  
567 IAC 23.1(4)"ez"

### III. Emission Point-Specific Conditions

Facility Name: Wellman Dynamics  
 Permit Number: **99-TV-018R3**

#### Emission Point ID Number: 1

#### Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
1-1	OMCO Mixer	CE1-1: Baghouse	New Sand	0.166 tons/hr	85-A-055-S6
6-1	450 Mixer		Sand/Binder	30.4 tons/hr	
15-1	Palmer Mixer		Sand/Binder	20.8 tons/hr	
16-1	250 Mixer		Sand/Binder	16.9 tons/hr	
28-1	Wheelabrator Shot Blast Cabinet		Grit Blast	0.002 ton/hr	
15-2	Silo C		Sand	32.8 tons/hr	
15-3	Silo D		Sand	16.5 tons/hr	

#### Applicable Requirements

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

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

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6  
 567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6  
 567 IAC 23.4(6)

Pollutant: Particulate Matter  
Emission Limit(s): 0.79 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

Pollutant: PM<sub>10</sub>  
Emission Limit(s): 0.79 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(2)</sup> tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The OMCO Mixer (EU1-1) shall not process more than 0.166 tons of sand per hour.
- B. The 450 Mixer (EU6-1) shall not process more than 30.4 tons of sand per hour.
- C. The Palmer Mixer (EU15-1) shall not process more than 20.8 tons of sand per hour.
- D. The 250 Mixer (EU16-1) shall not process more than 16.9 tons of sand per hour.
- E. Each day the owner or operator shall perform a calibration check to determine the maximum throughput of sand through the following mixers in tons per hour: OMCO Mixer (EU1-1), 450 Mixer (EU6-1), Palmer Mixer (EU15-1) and 250 Mixer (EU6-1). If the calibration check shows that any mixer is operating at a rate greater than the operational limit (capacity) listed in conditions A through D, the facility shall calculate the hourly amount of sand processed in that mixer for each day the calibration check is greater than the operational limit. The hourly amount shall be calculated by dividing the total amount of sand processed through that mixer that day in tons by the actual amount of time the mixer operated for that day in hours. The facility shall record the results of the calibration checks and, if required, the calculated production rate for each day the mixer is operational, in tons per hour.
- F. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- G. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons

per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.

- H. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- I. The permittee (or owner or operator) shall maintain the following daily records:
  - 1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- J. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  - 2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{FORMALDEHYDE}} = \text{Maximum percent by weight of Formaldehyde} \times 0.95$

(When calculating  $VOC_{\text{FORMALDEHYDE}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{POLYETHER POLYOL}} = \text{Percent by weight of Polyether Polyol} \times 0.95$

(When calculating  $VOC_{\text{POLYETHER POLYOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{\text{FURAN}} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{\text{FURAN}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{ISOCYANATES}} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{\text{ISOCYANATES}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- K. The facility may apply a control efficiency of 98% for Amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the Amine is emitted when it is emitted through EP-2.
- L. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- M. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.

2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- N. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition N. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition N.

- O. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources

drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition O. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition O.

- P. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition P. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition P.

- Q. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- R. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 30

Stack Opening, (inches): 16 x 20

Exhaust Flow Rate (scfm): 8000

Exhaust Temperature (°F): 70

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 85-A-055-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and 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:**

*Performance testing is required for one of the two following points EP-1 and EP-1A. If the test indicates non-compliance, the other emission units/points will be considered in violation of the permitted limits and shall be required to independently verify compliance.*

**Pollutant – Particulate Matter**

Stack Test to be completed by – August 21, 2019  
Test Method – 40 CFR Part 60 Appendix A, Method 5  
40 CFR 51 Appendix M Method 202  
Authority for Requirement – 567 IAC 22.108(3)

**Pollutant – PM-10**

Stack Test to be Completed by – August 21, 2019  
Test Method – 40 CFR 51, Appendix M, 201A with 202<sup>(1)</sup>  
<sup>(1)</sup> or an approved alternative  
Authority for Requirement – 567 IAC 22.108(3)

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

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

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

See Appendix A.

Authority for Requirement: 567 IAC 22.108(3)

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## Emission Point ID Number: 1A

### Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
15-1	Palmer Mixer	CE1-1A: Baghouse	Sand/Binder	20.8 tons/hr	07-A-735-S2
15-2	Sand Silo C		Sand	32.8 tons/hr	

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### 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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.26 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

Pollutant: PM<sub>10</sub>

Emission Limit(s): 0.26 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 230.0<sup>(2)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The Palmer Mixer (EU15-1) shall not process more than 20.8 tons of sand per hour.
- B. The owner or operator shall perform a calibration check to determine the maximum throughput of sand through the Palmer Mixer (EU15-1) in tons per hour. If the calibration check shows that the mixer is operating at a rate greater than the operational limit (capacity) listed in condition A, the facility shall calculate the hourly amount of sand processed in that mixer for each day the calibration check is greater than the operational limit. The hourly amount shall be calculated by dividing the total amount of sand processed through that mixer that day in tons by the actual amount of time the mixer operated for that day in hours. The facility shall record the results of the calibration checks and, if required, the calculated production rate for each day the mixer is operational, in tons per hour.
- C. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- E. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- F. The permittee (or owner or operator) shall maintain the following daily records:
  - 1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.

3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- G. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{POLYETHER POLYOL}} = \text{Percent by weight of Polyether Polyol} \times 0.95$

(When calculating  $VOC_{\text{POLYETHER POLYOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{\text{FURAN}} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{\text{FURAN}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{ISOCYANATES}} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{\text{ISOCYANATES}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel

Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

1. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  2. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- H. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- I. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- J. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

K. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition K. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition K.

L. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition L. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition L.

- M. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition M. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition M.
- N. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- O. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-S2

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 33

Stack Opening, (inches): 8

Exhaust Flow Rate (scfm): 1,500

Exhaust Temperature (°F): 70

Discharge Style: Vertical Obstructed

Authority for Requirement: Iowa DNR Construction Permit 07-A-735-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:**

*Performance testing is required for one of the two following points EP-1 and EP-1A. If the test indicates non-compliance, the other emission units/points will be considered in violation of the permitted limits and shall be required to independently verify compliance.*

Pollutant – Particulate Matter

Stack Test to be completed by – August 21, 2019

Test Method – 40 CFR Part 60 Appendix A, Method 5  
40 CFR 51 Appendix M Method 202

Authority for Requirement – 567 IAC 22.108(3)

Pollutant – PM-10

Stack Test to be Completed by – August 21, 2019

Test Method – 40 CFR 51, Appendix M, 201A with 202<sup>(1)</sup>  
<sup>(1)</sup> or an approved alternative

Authority for Requirement – 567 IAC 22.108(3)

**Agency Approved Operation & Maintenance Plan Required?**

Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**

Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**

Yes  No

See Appendix A.

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 2**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
2-1	South Bench Core Stations	NA	Sand/Binders	0.145 tons sand/hr	99-A-576-S4
2-2	SANBLO Core Station		Sand/Binders	0.0141 tons sand/hr	
82-1	Gaylord Core Blower		Sand/Binders	4.2 tons/hr	
83-1	ABC Core Blower		Sand/Binders	4.2 tons/hr	
90-1	Redford Core Blower		Sand/Binders	4.2 tons/hr	
91-1	CB-10		Sand/Binders	4.2 tons/hr	
92-1	CB-5		Sand/Binders	4.2 tons/hr	

**Applicable Requirements**

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

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

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.51 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

Pollutant: PM<sub>10</sub>  
Emission Limit(s): 0.51 lb/hr  
Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(2)</sup> tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- B. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The permittee (or owner or operator) shall maintain the following daily records:
  - 1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered

completely used on the day the materials are delivered to the facility or to the production line.

- E. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95  
(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95  
(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL}$  = Percent by weight of Polyether Polyol x 0.95  
(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{FURAN} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{ISOCYANATES}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
  5. The facility shall account for all uncontrolled emissions that are emitted via EP-2.
- F. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- G. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- H. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- I. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition I. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition I.

- J. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition J. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition K. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition K.

- L. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- M. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 35

Stack Opening, (inches, dia.): 28 x 24

Exhaust Flow Rate (scfm): 8,150

Exhaust Temperature (°F): 70

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 99-A-576-S4

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

**Monitoring Requirements**

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 3**Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
71-1	Silo A	CE3-1: Baghouse	New Sand	3.6 tons/hr	99-A-144-S3
72-1	Silo B		New Sand	3.6 tons/hr	

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-144-S3  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 99-A-144-S3  
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter

Emission Limit(s): 0.13 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-144-S3

Pollutant: PM<sub>10</sub>

Emission Limit(s): 0.13 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-144-S3

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The owner or operator shall maintain the control device per manufacturer’s recommendations.
  - 1. The owner or operator shall maintain records of maintenance conducted on the control device.

Authority for Requirement: Iowa DNR Construction Permit 99-A-144-S3

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

- Stack Height, (ft, from the ground): 16
- Stack Opening, (inches.): 8 X 6
- Exhaust Flow Rate (scfm): 500
- Exhaust Temperature (°F): 70
- Discharge Style: Horizontal
- Authority for Requirement: Iowa DNR Construction Permit 99-A-144-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.*

**Agency Approved Operation & Maintenance Plan Required?**                      Yes  No   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 5**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
18-1	Chill Spray Booth	CE5-1: Mat Filter	Solvent	245 lb/hr	99-A-784-S5

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.01 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5  
567 IAC 23.4(13)

Pollutant: PM

Emission Limit(s): 0.30 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

Pollutant: PM-10

Emission Limit(s): 0.30 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 230.0<sup>(2)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

Pollutant: Single Hazardous Air Pollutant (HAP)

Emission Limit(s): 9.0<sup>(2)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

Pollutant: Total HAP

Emission Limit(s): 22.0<sup>(2)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- B. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The permittee (or owner or operator) shall maintain the following daily records:
  - 1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- E. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For

these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:

2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL}$  = Percent by weight of Polyether Polyol x 0.95

(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{FURAN}$  = Maximum percent by weight of Furan Resin x 0.95

(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES}$  = Maximum percent by weight of Isocyanates x 0.99

(When calculating VOC<sub>ISOCYANATES</sub>, the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
  5. The facility shall account for all uncontrolled emissions that are emitted via EP-2.
- F. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- G. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- H. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- I. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition I. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition I.

- J. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition J. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition K. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition K.

- L. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be

used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.

M. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 33

Stack Opening, (inches): 11 x 16

Exhaust Flow Rate (scfm): 3500

Exhaust Temperature (°F): 70

Discharge Style: Unobstructed vertical

Authority for Requirement: Iowa DNR Construction Permit 99-A-784-S5

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

**Monitoring Requirements**

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

**Limit on Hours of Operation**

This emission unit shall be limited to 2000 hours of operation per 12 month rolling period. If this emission unit operates more than 2000 hours per 12 month rolling period it will be required to stack test for PM and PM10 with 90 day of exceeding the hour restriction.

This emission unit is required to record the hours of operation monthly and calculate a 12 month rolling total each month.

This condition was requested by the applicant.

Authority for Requirement: 567 IAC 22.108(14)

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

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

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

See Appendix A.

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 10**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>		<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
31-1	Shakeout/Lump Reduction	CE 2-1: Baghouse	CE 16-1: Cyclone	Sand	10 tons/hr	88-A-040-S3
32-1	Calciner			Natural Gas Sand	0.2 MMBtu/hr 2.0 tons/hr	
33-1	Cooler/Classifier			Sand	2.0 tons/hr	
68-1	EDC Silo G			Sand	2.0 tons/hr	
69-1	EDC Silo H			Sand	2.0 tons/hr	
29	EDC Mixer	N/A	Sand	7.4 tons/hr		

**Applicable Requirements**

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

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

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.16 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

Pollutant: PM<sub>10</sub>

Emission Limit(s): 0.16 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)  
Emission Limit(s): 500 ppmv  
Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3  
567 IAC 23.3(3)"e"

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(2)</sup> tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The owner or operator shall only combust natural gas in the calciner (EU32-1).
- B. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- E. The permittee (or owner or operator) shall maintain the following daily records:
  1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered

completely used on the day the materials are delivered to the facility or to the production line.

- F. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL}$  = Percent by weight of Polyether Polyol x 0.95

(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{FURAN} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{ISOCYANATES}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
  5. The facility shall account for all uncontrolled emissions that are emitted via EP-2.
- G. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- H. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- I. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- J. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition J. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition K. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition K.

- L. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility,

excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition L. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition L.

- M. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- N. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-S3

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 13.5

Stack Opening, (inches): 18

Exhaust Flow Rate (scfm): 2,400

Exhaust Temperature (°F): 210

Discharge Style: Unobstructed vertical

Authority for Requirement: Iowa DNR Construction Permit 88-A-040-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.*

**Agency Approved Operation & Maintenance Plan Required?**                      Yes  No   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 11****Associated Equipment**

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
34-1	Laempe Core Blower	Packed Bed Gas Scrubber CE 11-1	Sand/Binder	1,350 lb/hr	99-A-145-S6
35-1	Laempe Core Blower		Sand/Binder	1,350 lb/hr	

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.22 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

Pollutant: PM-10

Emission Limit(s): 0.22 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 230.0<sup>(3)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

Pollutant: Single Hazardous Air Pollutant (HAP)

Emission Limit(s): 9.0<sup>(3)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

Pollutant: Total HAP

Emission Limit(s): 22.0<sup>(2)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

<sup>(2)</sup> Facility-wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The owner or operator shall install, operate, and maintain the scrubber (CE 11) according to manufacturer's specifications and maintenance schedule.
  - i. The permittee shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the control equipment and the monitoring devices.
- B. The owner or operator shall install, operate, and maintain a monitor (post- scrubber) to detect amine emissions according to the manufacturer's specifications and maintenance schedule.
- C. The permittee shall properly operate and maintain equipment to monitor the scrubbant pH. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- D. The scrubbant pH shall be maintained in the pH range specified by the manufacturer.
  - i. The permittee shall record the pH of the scrubbant, in standard units, once per day. This requirement shall not apply on the days that the scrubber or the equipment that the scrubber controls is not in operation.
- E. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- F. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- G. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- H. The permittee (or owner or operator) shall maintain the following daily records:
  1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting

sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.

- I. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95  
(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95  
(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL} = \text{Percent by weight of Polyether Polyol} \times 0.95$   
(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on binder manufacturer's data

$VOC_{FURAN} = \text{Maximum percent by weight of Furan Resin} \times 0.95$   
(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES} = \text{Maximum percent by weight of Isocyanates} \times 0.99$   
(When calculating  $VOC_{ISOCYANATES}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
  5. The facility shall account for all uncontrolled emissions that are emitted via EP-2.
- J. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- K. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- L. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- M. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition M. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition M.

- N. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition N. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition N.

- O. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition O. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition O.

- P. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- Q. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): Vents Inside Building

Stack Opening, (inches, dia.): Vents Inside Building

Exhaust Flow Rate (acfm): Vents Inside Building

Exhaust Temperature (°F): Vents Inside Building

Discharge Style: Vents Inside Building

Authority for Requirement: Iowa DNR Construction Permit 99-A-145-S6

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and 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   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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## Emission Point ID Numbers: 12 & 13

### Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
12	36-1	West Pattern Room Wood Working	CE14-1: Cyclone	Wood	0.49 tons/hr	99-A-577
13	37-1	Outer Pattern Room Wood Working	CE15-1: Baghouse	Wood	0.49 tons/hr	99-A-578

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### 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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permits 99-A-577 & 99-A-578  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permits 99-A-577 & 99-A-578  
567 IAC 23.3(2)"a"

#### Operational Limits & Requirements

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

Control equipment parameters:

1. Maintain cyclone, 14-1 according to manufacturer's specifications and maintenance schedule.
2. Maintain baghouse, 15-1 and filter media according to manufacturer's specifications and maintenance schedule.

Reporting & Record keeping:

*Records shall be kept on site for at least five years and shall be available for inspection by the Department.*

1. Record on a monthly basis, all maintenance of cyclone, 14-1.
2. Record on a monthly basis, all maintenance of filter media and of baghouse, 15-1.

Authority for Requirement: Iowa DNR Construction Permits 99-A-577 & 99-A-578

**Emission Point Characteristics**

*These emission points shall conform to the specifications listed below.*

<b>Emission Point</b>	<b>Stack Height, (ft, from the ground)</b>	<b>Stack Opening, (inches, dia.)</b>	<b>Exhaust Flow Rate (acfm)</b>	<b>Exhaust Temperature (°F)</b>	<b>Discharge Style</b>	<b>Authority for Requirement</b>
12	20	8	2250	70	Vertical, obstructed	99-A-577
13	20	8	1200	70	Vertical, obstructed	99-A-578

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

**Monitoring Requirements**

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

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

(Required for CE14-1 and CE15-1)

See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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## Emission Point ID Number: 14

### Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
39-1	Wheelabrator Blast Cabinet	CE8-1: Baghouse	Sand/Steelshot	10 tons/hr	85-A-054-S3
40-1	Sand Reclamation Unit		Sand/Steelshot	10 tons/hr	

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### 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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.34 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3

Pollutant: PM-10

Emission Limit(s): 0.34 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3

### **Operational Limits & Requirements**

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

Control equipment parameters:

1. The owner or operator shall operate and maintain the control equipment according to the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Reporting & Record keeping:

*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 maintain all records required by the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 34.7

Stack Opening, (inches): 21 x 16

Exhaust Flow Rate (scfm): 8,115

Exhaust Temperature (°F): 110

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 85-A-054-S3

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

### **Monitoring Requirements**

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

#### **Stack Testing:**

*Performance testing is required for one of the two following points EP-14 and EP-18. If the test indicates non-compliance, the other emission units/points will be considered in violation of the permitted limits and shall be required to independently verify compliance.*

Pollutant – Particulate Matter

Stack Test to be completed by – August 21, 2019

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

40 CFR 51 Appendix M Method 202

Authority for Requirement – 567 IAC 22.108(3)

Pollutant – PM-10

Stack Test to be Completed by – August 21, 2019

Test Method – 40 CFR 51, Appendix M, 201A with 202<sup>(1)</sup>

<sup>(1)</sup> or an approved alternative

Authority for Requirement – 567 IAC 22.108(3)

*The owner of this equipment or his 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 tests 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 A.

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 15****Associated Equipment**

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
41-1	Saw Room Sand Blast	CE10-1: Baghouse	Sand	0.1 ton/hr	83-A-067-S2
56-1	Grit Blast Wheelabrator		Steel Grit/Castings	200 lb/hr	

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-S2  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.69 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-S2

Pollutant: PM-10

Emission Limit(s): 0.69 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-S2

**Operational Limits & Requirements**

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

Control equipment parameters:

A. The owner or operator shall operate and maintain the control equipment according to the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Reporting & Record keeping:

*Records shall be kept on site for at least five years and shall be available for inspection by the Department.*

A. The owner or operator shall maintain all records required by the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-S2

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 33

Stack Opening, (inches): 24 x 30

Exhaust Flow Rate (scfm): 15,000

Exhaust Temperature (°F): 70

Discharge Style: Vertical Obstructed

Authority for Requirement: Iowa DNR Construction Permit 83-A-067-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   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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## Emission Point ID Number: 18

### Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
45-2	Wheelabrator Blast Cabinet	CE3-1: Baghouse	Sand	0.875 tons/hr	01-A-771-S2
55-1	Pangborn Mini Cabinet		Sand/Castings	0.02 tons/hr	

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### 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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-S2  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.7 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-S2

Pollutant: PM-10

Emission Limit(s): 0.7 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-S2

### **Operational Limits & Requirements**

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

Control equipment parameters:

1. The owner or operator shall operate and maintain the control equipment according to the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Reporting & Record keeping:

*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 maintain all records required by the Operation and Maintenance Plan in the facility's most recent Title V operating permit.

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-S2

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 30

Stack Opening, (inches): 30 x 30

Exhaust Flow Rate (scfm): 18,500

Exhaust Temperature (°F): 70

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 01-A-771-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:**

*Performance testing is required for one of the two following points EP-14 and EP-18. If the test indicates non-compliance, the other emission units/points will be considered in violation of the permitted limits and shall be required to independently verify compliance.*

Pollutant – Particulate Matter

Stack Test to be completed by – August 21, 2019

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

40 CFR 51 Appendix M Method 202

Authority for Requirement – 567 IAC 22.108(3)

Pollutant – PM-10

Stack Test to be Completed by – August 21, 2019

Test Method – 40 CFR 51, Appendix M, 201A with 202<sup>(1)</sup>

<sup>(1)</sup> or an approved alternative

Authority for Requirement – 567 IAC 22.108(3)

**Agency Approved Operation & Maintenance Plan Required?**

Yes  No

**Facility Maintained Operation & Maintenance Plan Required?**

Yes  No

**Compliance Assurance Monitoring (CAM) Plan Required?**

Yes  No

See Appendix A.

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: See Table: Acid Dip Tanks**

Table: Acid Dip Tanks

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Maximum Capacity (gal.)	Construction Permit Number
19A*	57-1a	Tank 1	N/A	8% Nitric Acid & 3.2 % Sulfuric Acid	859	07-A-738-S2
	57-1b	Tank 2		Water	859	
	57-1c	Tank 3		20% Hydrofluoric Acid	859	
	57-1d	Tank 4		Water	859	
19B*	57-1f	Tank 6		Water	859	07-A-739-S2
	57-1g	Tank 7		5% Nitric Acid & 5% Acetic Acid	859	
	57-1h	Tank 8		Water	982	
	57-1i	Tank 9		20% Hydrofluoric Acid	982	

\* Note: The above 8 tanks emit to both stacks (19A & 19B).

**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2  
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter  
Emission Limit(s): 0.20 lb/hr  
Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

Pollutant: PM-10  
Emission Limit(s): 0.20 lb/hr  
Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(2)</sup> tons/yr  
Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

<sup>(2)</sup> Facility wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- B. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The permittee (or owner or operator) shall maintain the following daily records:
  1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.

2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- E. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{\text{VOC}} = \text{VOC}_{\text{TOTAL}} - (\text{VOC}_{\text{PHENOL}} + \text{VOC}_{\text{FORMALDEHYDE}} + \text{VOC}_{\text{POLYETHER POLYOL}} + \text{VOC}_{\text{FURAN}} + \text{VOC}_{\text{ISOCYANATES}})$$

Where,

$E_{\text{VOC}}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$\text{VOC}_{\text{TOTAL}}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$\text{VOC}_{\text{PHENOL}}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $\text{VOC}_{\text{PHENOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$\text{VOC}_{\text{FORMALDEHYDE}}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $\text{VOC}_{\text{FORMALDEHYDE}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL} = \text{Percent by weight of Polyether Polyol} \times 0.95$

(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{FURAN} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{ISOCYANATES}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel

Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- F. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- G. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- H. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.

3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- I. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition I. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition I.

- J. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition J. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition K. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition K.

- L. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- M. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permits 07-A-738-S2 & 07-A-739-S2

**Emission Point Characteristics**

*These emission points shall conform to the specifications listed below.*

<b>Emission Point</b>	<b>Stack Height, (ft, from the ground)</b>	<b>Stack Opening, (inches, dia.)</b>	<b>Exhaust Flow Rate (acfm)</b>	<b>Exhaust Temperature (°F)</b>	<b>Discharge Style</b>	<b>Authority for Requirement</b>
19A	41	24	7500	70	Vertical, obstructed	07-A-738-S2
19B	41	24	7500	70	Vertical, obstructed	07-A-739-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 22.108(3)

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**Emission Point ID Number: 23**Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
74-1	Silo E*	CE18-1: Baghouse	Sand	4 tons/hr	99-A-146-S2
75-1	Silo F		Sand	4 tons/hr	

\*Silo E also exhausts through Emission Point 23A

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-S2

567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-S2

567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 0.21 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-S2

567 IAC 23.4(6)

Pollutant: PM-10

Emission Limit(s): 0.21 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-S2

**Operational Limits & Requirements**

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

Control equipment parameters:

- 1. The owner or operator shall operate and maintain the control equipment according to the Operation and Maintenance Plan in the facility’s most recent Title V operating permit.

Reporting & Record keeping:

*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 maintain all records required by the Operation and Maintenance Plan in the facility’s most recent Title V operating permit.

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-S2

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 23.5

Stack Opening, (inches, dia.): 6

Exhaust Flow Rate (scfm): 500

Exhaust Temperature (°F): Ambient

Discharge Style: Vertical unobstructed

Authority for Requirement: Iowa DNR Construction Permit 99-A-146-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

See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 23A**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
74-1	Silo E*	CE18A: Dust Collector	Sand	4 tons/hr	04-A-039-S1

\*Silo E also exhausts through Emission Point 23

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-S1  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-S1  
567 IAC 23.3(2)

Pollutant: Particulate Matter

Emission Limit(s): 0.21 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-S1

Pollutant: PM-10

Emission Limit(s): 0.21 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-S1

**Operational Limits & Requirements**

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

Control equipment parameters:

- 1. The owner or operator shall operate and maintain the control equipment according to the Operation and Maintenance Plan in the facility’s most recent Title V operating permit.

Reporting & Record keeping:

*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 maintain all records required by the Operation and Maintenance Plan in the facility’s most recent Title V operating permit.

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-S1

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 58

Stack Opening, (inches, dia.): 6

Exhaust Flow Rate (scfm): 500

Exhaust Temperature (°F): 70

Discharge Style: Vertical Unobstructed

Authority for Requirement: Iowa DNR Construction Permit 04-A-039-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

See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

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**Emission Point ID Number: 59**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
59-1	Welding Stations	NA	Magnesium/Aluminum Alloys	200 lbs/hr	99-A-147

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**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 99-A-147  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 99-A-147  
567 IAC 23.3(2)"a"

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 35

Stack Opening, (inches, dia.): 14

Exhaust Flow Rate (scfm): 1500

Exhaust Temperature (°F): Ambient

Authority for Requirement: Iowa DNR Construction Permit 99-A-147

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 22.108(3)

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## Emission Point ID Number: 81

### Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
81-1	Inhibitor Tumbler	CE81-1: Baghouse	Sand/Inhibitor	0.3 tons/hr	07-A-740-S2

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### 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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 07-A-740-S2  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 07-A-740-S2  
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter

Emission Limit(s): 0.05 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-740-S2

Pollutant: PM-10

Emission Limit(s): 0.05 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-740-S2

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 230.0<sup>(2)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permit 07-A-740-S2

Pollutant: Single Hazardous Air Pollutant (HAP)

Emission Limit(s): 9.0<sup>(2)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permits 07-A-740-S2

Pollutant: Total HAP

Emission Limit(s): 22.0<sup>(2)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permits 07-A-740-S2

<sup>(2)</sup> Facility wide limit.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- B. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The permittee (or owner or operator) shall maintain the following daily records:
  - 1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- E. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  - 1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the

manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:

2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{POLYETHER\ POLYOL}$  = Percent by weight of Polyether Polyol x 0.95

(When calculating  $VOC_{POLYETHER\ POLYOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{FURAN}$  = Maximum percent by weight of Furan Resin x 0.95

(When calculating  $VOC_{FURAN}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{ISOCYANATES}$  = Maximum percent by weight of Isocyanates x 0.99

(When calculating  $VOC_{ISOCYANATES}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel

Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- F. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- G. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- H. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- I. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition I. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition I.

- J. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
  1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition J. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
  1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition K. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition K.

- L. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.

M. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permits 07-A-740-S2

**Emission Point Characteristics**

*This emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 33

Stack Opening, (inches, dia.): 8

Exhaust Flow Rate (scfm): 2,200

Exhaust Temperature (°F): 70

Discharge Style: Vertical, obstructed

Authority for Requirement: Iowa DNR Construction Permits 07-A-740-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   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Number: 82**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
2-1	South Bench Core Stations	CE 82 Amine Scrubber	Sand	0.145 tons/hr	12-A-039-S2
2-2	SANBLO Core Station			0.0141 tons/hr	
82-1	Gaylord Core Blower			4.2 tons/hr	
83-1	ABC Core Blower			4.2 tons/hr	
90-1	Redford Core Blower			4.2 tons/hr	
91-1	CB-10			4.2 tons/hr	
92-1	CB-5			4.2 tons/hr	

**Applicable Requirements**

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

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

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 1.94 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

Pollutant: PM<sub>10</sub>

Emission Limit(s): 1.94 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(2)</sup> tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(2)</sup>tons/yr  
Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

<sup>(2)</sup> Facility-wide limit.

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The owner or operator shall install, operate, and maintain the scrubber (CE 82) according to manufacturer's specifications and maintenance schedule.
  - i. The permittee shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the control equipment and the monitoring devices.
- B. The owner or operator shall install, operate, and maintain a monitor (post- scrubber) to detect amine emissions according to the manufacturer's specifications and maintenance schedule.
- C. The permittee shall properly operate and maintain equipment to monitor the scrubbant pH. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- D. The scrubbant pH shall be maintained in the pH range specified by the manufacturer.
  - i. The permittee shall record the pH of the scrubbant, in standard units, once per day. This requirement shall not apply on the days that the scrubber or the equipment that the scrubber controls is not in operation.
- E. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- F. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- G. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- H. The permittee (or owner or operator) shall maintain the following daily records:

1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- I. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{\text{VOC}} = \text{VOC}_{\text{TOTAL}} - (\text{VOC}_{\text{PHENOL}} + \text{VOC}_{\text{FORMALDEHYDE}} + \text{VOC}_{\text{POLYETHER POLYOL}} + \text{VOC}_{\text{FURAN}} + \text{VOC}_{\text{ISOCYANATES}})$$

Where,

$E_{\text{VOC}}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$\text{VOC}_{\text{TOTAL}}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$\text{VOC}_{\text{PHENOL}}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95  
(When calculating  $\text{VOC}_{\text{PHENOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$\text{VOC}_{\text{FORMALDEHYDE}}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{\text{FORMALDEHYDE}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{POLYETHER POLYOL}} = \text{Percent by weight of Polyether Polyol} \times 0.95$

(When calculating  $VOC_{\text{POLYETHER POLYOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$VOC_{\text{FURAN}} = \text{Maximum percent by weight of Furan Resin} \times 0.95$

(When calculating  $VOC_{\text{FURAN}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{ISOCYANATES}} = \text{Maximum percent by weight of Isocyanates} \times 0.99$

(When calculating  $VOC_{\text{ISOCYANATES}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
  5. The facility shall account for all uncontrolled emissions that are emitted via EP-2.
- J. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- K. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- L. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be

considered emitted on the day the materials are delivered to the facility or to the production line.

3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

M. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition M. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition M.

N. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:

1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition N. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition N.

- O. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition O. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition O.

- P. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- Q. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-S2

### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

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

Stack Opening, (inches, dia.): NA

Exhaust Flow Rate (scfm): 6,000

Exhaust Temperature (°F): NA

Discharge Style: Vents Inside Building

Authority for Requirement: Iowa DNR Construction Permit 12-A-039-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   
See Appendix A.

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

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

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: See Table: Metal Pouring and Mold Cooling-Associated Equipment**

Table: Metal Pouring and Mold Cooling-Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EF-1	84-1 85-1	Metal Pouring Mold Cooling	NA	Metal	1.25 tons/hr	07-A-741-S2
EF-2						07-A-742-S2
EF-3						07-A-743-S2
EF-4						07-A-744-S2
EF-5						07-A-745-S2
EF-6						07-A-746-S2
EF-7						07-A-747-S2
EF-8						07-A-748-S2
EF-9						12-A-040-S1
EF-10						07-A-749-S2
EF-11						07-A-750-S2
EF-12						12-A-041-S1
EF-35						12-A-042-S1
EF-36						12-A-043-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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment  
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter

Emission Limit(s): 0.15 lb/hr<sup>(2)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

Pollutant: PM-10

Emission Limit(s): 0.15 lb/hr<sup>(2)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

<sup>(2)</sup> Limit for each emission point

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 230.0<sup>(3)</sup> tons/yr

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

Pollutant: Single Hazardous Air Pollutant (HAP)

Emission Limit(s): 9.0<sup>(3)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

Pollutant: Total HAP

Emission Limit(s): 22.0<sup>(3)</sup>tons/yr

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

<sup>(3)</sup> Facility wide limit.

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
- B. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- C. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
- D. The permittee (or owner or operator) shall maintain the following daily records:

1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
- E. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted:
  2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{VOC} = VOC_{TOTAL} - (VOC_{PHENOL} + VOC_{FORMALDEHYDE} + VOC_{POLYETHER\ POLYOL} + VOC_{FURAN} + VOC_{ISOCYANATES})$$

Where,

$E_{VOC}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$VOC_{TOTAL}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$VOC_{PHENOL}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $VOC_{PHENOL}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{FORMALDEHYDE}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $VOC_{FORMALDEHYDE}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{POLYETHER POLYOL}} = \text{Percent by weight of Polyether Polyol} \times 0.95$   
(When calculating  $VOC_{\text{POLYETHER POLYOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on binder manufacturer's data

$VOC_{\text{FURAN}} = \text{Maximum percent by weight of Furan Resin} \times 0.95$   
(When calculating  $VOC_{\text{FURAN}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$VOC_{\text{ISOCYANATES}} = \text{Maximum percent by weight of Isocyanates} \times 0.99$   
(When calculating  $VOC_{\text{ISOCYANATES}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)  
Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- F. The facility may apply a control efficiency of 98% for Amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the Amine is emitted when it is emitted through EP-2.
- G. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- H. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- I. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition I. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition I.

- J. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition J. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition J.

- K. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition K. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition K.

- L. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- M. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

#### NESHAP

This unit is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZZZ – Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries (40 CFR §63.11544 through 40 CFR §63.11558).

Per 40 CFR Part 63.11550(a)(1) through (3) the facility must cover or enclose melting furnaces during the melting process, purchase scrap that has been depleted of hazardous metals to the extent possible, and prepare and operate according to a written management practices plan. The facility must also keep the records specified in paragraphs 40 CFR Part 63.11553(c), (d), and (e).

Authority for Requirement: 40 CFR 63 Subpart ZZZZZZ  
567 IAC 23.1(4)"ez"

#### Emission Point Characteristics

*These emission points shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 38

Stack Opening, (inches, dia.): 40

Exhaust Flow Rate (scfm): 17,000

Exhaust Temperature (°F): 70

Discharge Style: Vertical, unobstructed

Authority for Requirement: Iowa DNR Construction Permits listed in Table: Metal Pouring and Mold Cooling-Associated Equipment

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 22.108(3)

**Emission Point ID Numbers: See Table: Aluminum Metal Equipment**

Table: Metal Pouring and Mold Cooling-Associated Equipment

<b>Emission Point</b>	<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
EF-13	86-1	Aluminum	N/A	Aluminum Alloy	0.5 tons/hr	N/A
EF-14		Melting	N/A			N/A
EF-15		Exhaust	N/A			N/A

**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%<sup>(1)</sup>

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"

**Operating Requirements with Associated Monitoring and Recordkeeping**

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

**NESHAP**

This unit is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZZZ – Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries (40 CFR §63.11544 through 40 CFR §63. 11558).

Per 40 CFR Part 63.11550(a)(1) through (3) the facility must cover or enclose melting furnaces during the melting process, purchase scrap that has been depleted of hazardous metals to the extent possible, and prepare and operate according to a written management practices plan. The facility must also keep the records specified in paragraphs 40 CFR Part 63.11553(c), (d), and (e).

Authority for Requirement: 40 CFR 63 Subpart ZZZZZZ  
567 IAC 23.1(4)"ez"

**Monitoring Requirements**

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

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

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

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

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: EF-18, 19, 20, 21 and EF-32**

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EF-18	24-1	Natural Gas Fired Magnesium Tilter Furnaces (7)	NA	Magnesium	0.75 tons/hr Mg 24.89 MMBtu/hr*	07-A-751-S2
EF-19						07-A-752-S2
EF-20		Natural Gas Fired Magnesium Pot Furnaces (13)				07-A-753-S2
EF-21						07-A-754-S2
EF-32						07-A-755-S2

\*Rates represent the total of all of the furnaces.

**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment  
567 IAC 23.3(2)

Pollutant: Particulate Matter

Emission Limit(s): 0.60 lb/hr

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment

Pollutant: PM<sub>10</sub>

Emission Limit(s): 0.60 lb/hr

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

- A. The magnesium tilter and pot furnaces shall not produce more than 0.75 tons per hour of magnesium (or magnesium alloys) for any pouring or casting operation.
  - i. The owner or operator shall record the hourly amount of magnesium (or magnesium alloys) poured at the facility. The hourly amount may be calculated by the facility by dividing the total amount of magnesium used each day by the hours of operation of the pouring area.
- B. The magnesium tilter and pot furnaces shall be fired with propane or natural gas fuel only.
  - i. The owner or operator shall record the type of fuel used in the magnesium tilter and pot furnaces.
- C. The furnaces located in the Magnesium Melt Room may only melt clean charge materials including: molten magnesium; T-bar; sow; ingot; billet; pig; alloying elements; magnesium scrap that is known by the owner or operator to be entirely free of paints, coatings and lubricants; and runaround scrap. Clean charge material may contain markings made at this foundry for identification purposes in paint, ink or grease pen.
  - i. The owner or operator shall record the type of charge used in the furnaces in the Magnesium Melt Room.

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment

### **NESHAP**

This unit is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZZZ – Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries (40 CFR §63.11544 through 40 CFR §63.11558).

Per 40 CFR Part 63.11550(a)(1) through (3) the facility must cover or enclose melting furnaces during the melting process, purchase scrap that has been depleted of hazardous metals to the extent possible, and prepare and operate according to a written management practices plan. The facility must also keep the records specified in paragraphs 40 CFR Part 63.11553(c), (d), and (e).

Authority for Requirement: 40 CFR 63 Subpart ZZZZZZ  
567 IAC 23.1(4)"ez"

**Emission Point Characteristics**

*These emission points shall conform to the specifications listed below.*

<b>Emission Point</b>	<b>Stack Height, (ft, from the ground)</b>	<b>Stack Opening, (inches, dia.)</b>	<b>Exhaust Flow Rate (acfm)</b>	<b>Exhaust Temperature (°F)</b>	<b>Discharge Style</b>	<b>Authority for Requirement</b>
EF-18	32	40	17,000	70	Vertical unobstructed	07-A-751-S2
EF-19	32	40	17,000	70	Vertical unobstructed	07-A-752-S2
EF-20	36	40	17,000	70	Vertical unobstructed	07-A-753-S2
EF-21	32	40	17,000	70	Vertical unobstructed	07-A-754-S2
EF-32	36	40	17,000	70	Vertical unobstructed	07-A-755-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 22.108(3)

**Emission Point ID Numbers: EF-24, EF-26, EF-27**

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EF-24	EF-24	Heat Treat 1	NA	Quenchant	6.92 lb/hr	07-A-756
	EF-26	Heat Treat 2	NA	Quenchant	6.92 lb/hr	
EF-26	EF-27	Heat Treat 3	NA	Quenchant	14 lb/hr	07-A-757
EF-27			NA			07-A-758

**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%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in: Associated Equipment  
Equipment  
567 IAC 23.3(2)"d"

<sup>(1)</sup> 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

Emission Limit(s): 0.1 gr/scf

Authority for Requirement: Iowa DNR Construction Permits listed in: Associated Equipment  
Equipment  
567 IAC 23.3(2)"a"

Pollutant: Particulate Matter (EF-24 only)

Emission Limit(s): 0.70 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-756

Pollutant: PM-10 (EF-24 only)

Emission Limit(s): 0.70 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-756

Pollutant: Particulate Matter (EF 26 and 27)

Emission Limit(s): 0.35 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-757 (EF-26) and 07-A-758 (EF-27)

Pollutant: PM-10 (EF-26 and 27)

Emission Limit(s): 0.35 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 07-A-757 (EF-26) and 07-A-758 (EF-27)

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit(s): 6.11 tons/yr<sup>(2)</sup>

Authority for Requirement: Iowa DNR Construction Permits listed in: Associated Equipment

<sup>(2)</sup> Limit for EF-24, EF-26 and EF-27, combined per 12-month rolling period.

### **Operational Limits & Requirements**

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

Process throughput:

1. The combined amount of oil quenchant used in Heat Treat Furnace 1 and Quench (EF-24), Heat Treat Furnace 2 and Quench (EF-26) and Heat Treat Furnace 3 (EF-27) combined shall not exceed 22,230 pounds in any rolling 12-month period.
2. The VOC content of the oil quenching used in Heat Treat Furnace 1 and Quench (EF-24), Heat Treat Furnace 2 and Quench (EF-26) and Heat Treat Furnace 3 (EF-27) combined shall not exceed 55 percent by weight.

Reporting & Record keeping:

*Records shall be kept on site for at least five years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:*

1. Record monthly the amount of oil quenchant used in Heat Treat Furnace 1 and Quench (EF-24), Heat Treat Furnace 2 and Quench (EF-26) and Heat Treat Furnace 3 (EF-27) combined in pounds. Calculate and record rolling 12-month totals.
2. Retain Material Safety Data Sheets (MSDS) for all quench materials used in Heat Treat Furnace 1 and Quench (EF-24), Heat Treat Furnace 2 and Quench (EF-26) and Heat Treat Furnace 3 (EF-27)

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): 32

Stack Opening, (inches, dia.): 40

Exhaust Flow Rate (scfm): 37,000

Exhaust Temperature (°F): 70

Discharge Style: Vertical unobstructed

Authority for Requirement: Iowa DNR Construction Permits listed in Associated Equipment

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 22.108(3)

**Emission Point ID Number: BLDG F (Vent Internally)**

Associated Equipment

<b>Emission Unit</b>	<b>Emission Unit Description</b>	<b>Control Equipment</b>	<b>Raw Material</b>	<b>Rated Capacity</b>	<b>Construction Permit</b>
4-1	East Cell Mixer	CE20-1: Baghouse	Sand /Binder	4.2 tons/hr	07-A-759-S3
47-1	West Cell Mixer		Sand/Binder	4.2 tons/hr	
93-1	300 Mixer		Sand/Binder	9.4 tons/hr	
11-1	SO2 Core Making	CE19-1: Scrubber	Sand/Binder	0.0087 tons/hr	
38-1	Old Knock Out	NA	Sand/Castings	1 ton/hr	
50-1	Cleaning and Grinding Room	NA	Castings Scrape Off	0.57 tons/hr	
88-1	Tinker Omega Mixer	NA	Sand/Binder	0.06 lb/hr	

**Applicable Requirements**

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

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

Pollutant: Opacity

Emission Limit(s): 40%<sup>(1)</sup>

Authority for Requirement: Iowa DNR Construction Permit 07-A-759-S3  
567 IAC 23.3(2)"d"

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

Pollutant: Particulate Matter

Emission Limit(s): 0.05 gr/scf

Authority for Requirement: Iowa DNR Construction Permit 07-A-759-S3  
567 IAC 23.4(6)

Pollutant: Particulate Matter

Emission Limit(s): 12.33 lb/hr

Authority for Requirement: DNR Construction Permit 07-A-759-S3

Pollutant: PM-10  
Emission Limit(s): 5.1 lb/hr  
Authority for Requirement: DNR Construction Permit 07-A-759-S3

Pollutant: Sulfur Dioxides (SO<sub>2</sub>)  
Emission Limit(s): 500 ppm<sup>(2)</sup>  
Authority for Requirement: DNR Construction Permit 07-A-759-S3

Pollutant: Volatile Organic Compounds (VOC)  
Emission Limit(s): 230.0<sup>(3)</sup> tons/yr  
Authority for Requirement: DNR Construction Permit 07-A-759-S3

Pollutant: Single Hazardous Air Pollutant (HAP)  
Emission Limit(s): 9.0<sup>(3)</sup> tons/yr  
Authority for Requirement: DNR Construction Permit 07-A-759-S3

Pollutant: Total HAP  
Emission Limit(s): 22.0<sup>(3)</sup> tons/yr  
Authority for Requirement: DNR Construction Permit 07-A-759-S3

<sup>(2)</sup> SO<sub>2</sub> emission standard applies to the SO<sub>2</sub> Core Making Machine (EU 11-1) only.

<sup>(3)</sup> Facility wide limit, excluding combustion, welding, the heat treat furnaces, and melting sources.

### **Operating Requirements with Associated Monitoring and Recordkeeping**

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

#### **A. SO<sub>2</sub> Core Making Machine (EU11-1) Operating Limits:**

1. The owner or operator shall maintain the control equipment according to manufacturer's specifications and maintenance schedule.
  - i. The permittee shall maintain a record of all inspections/maintenance and any action resulting from the inspection/maintenance of the control equipment and the monitoring devices.
2. The SO<sub>2</sub> Scrubber, CE19-1, scrubbant line pressure shall be maintained between 15 and 21 pounds per square inch.
  - i. The permittee shall properly operate and maintain equipment to monitor the scrubbant line pressure. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
  - ii. The permittee shall record the scrubbant line pressure, in pounds per square inch, once per day. This requirement shall not apply on the days that the scrubber or the equipment that the scrubber controls is not in operation.
3. The SO<sub>2</sub> Scrubber, CE19-1, scrubbant pH shall be maintained at or above the pH measured in standard units recommended by the manufacturer.
  - i. The permittee shall properly operate and maintain equipment to monitor the

scrubbant pH. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

- ii. The permittee shall record the pH of the scrubbant, in standard units, once per day. This requirement shall not apply on the days that the scrubber or the equipment that the scrubber controls is not in operation.
- B. Total VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 230.0 tons per daily rolling 365-day period. All VOC-containing materials used in these sources at the facility shall be included in the emissions calculations.
  - C. The total emissions of all cumulative HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 22.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
  - D. The total emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, shall not exceed 9.0 tons per daily rolling 365-day period. All HAP-containing materials used in these sources at the facility shall be included in the emissions calculations.
  - E. The permittee (or owner or operator) shall maintain the following daily records:
    1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
    2. The VOC and HAP content of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
    3. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, the material may be considered completely used on the day the materials are delivered to the facility or to the production line.
  - F. The permittee (or owner or operator) shall maintain the following records for each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
    1. Calculate and record the HAP emitted in weight percent for each Part I, Part II, and Part III Binder, or similar material, used in the Mold and Core making Operations. The amount of HAP should be determined by the MSDS or vendor technical data sheet. The HAP emissions from formaldehyde, furan, polyether polyol, and phenol can be assumed to be 95% reacted with the remaining 5% emitted. HAP emissions from diisocyanates can be assumed to be 99% reacted with the remaining 1% emitted. For these compounds, the permittee shall use the maximum content specified by the manufacturer on the MSDS or product specification sheet. For all other compounds, the permittee shall assume that 100% of the HAP is emitted.
    2. Calculate and record the VOC emitted in weight percent for each Part I, Part II, and Part III Binder or similar material used in the Mold and Core making Operations. The amount of VOC emitted shall be calculated by using the equation given below. If the

equation does not apply the permittee shall assume that 100% of the VOC in the material is emitted:

$$E_{\text{VOC}} = \text{VOC}_{\text{TOTAL}} - (\text{VOC}_{\text{PHENOL}} + \text{VOC}_{\text{FORMALDEHYDE}} + \text{VOC}_{\text{POLYETHER POLYOL}} + \text{VOC}_{\text{FURAN}} + \text{VOC}_{\text{ISOCYANATES}})$$

Where,

$E_{\text{VOC}}$  = Amount of VOC and HAP emitted in weight percent from the Part I, Part II, or Part III Binder, or similar material

$\text{VOC}_{\text{TOTAL}}$  = Total VOC content of the Part I, Part II, or Part III Binder, or similar material, in weight percent using the maximum content specified by the manufacturer on the MSDS or product specification sheet

$\text{VOC}_{\text{PHENOL}}$  = Percent by weight of Phenol and/or Phenolic Resin x 0.95

(When calculating  $\text{VOC}_{\text{PHENOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$\text{VOC}_{\text{FORMALDEHYDE}}$  = Maximum percent by weight of Formaldehyde x 0.95

(When calculating  $\text{VOC}_{\text{FORMALDEHYDE}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$\text{VOC}_{\text{POLYETHER POLYOL}}$  = Percent by weight of Polyether Polyol x 0.95

(When calculating  $\text{VOC}_{\text{POLYETHER POLYOL}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on binder manufacturer's data

$\text{VOC}_{\text{FURAN}}$  = Maximum percent by weight of Furan Resin x 0.95

(When calculating  $\text{VOC}_{\text{FURAN}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries – Background Information for Proposed Standards (EPA 453/R-02-013), December 2002

$\text{VOC}_{\text{ISOCYANATES}}$  = Maximum percent by weight of Isocyanates x 0.99

(When calculating  $\text{VOC}_{\text{ISOCYANATES}}$ , the permittee shall use the minimum content on any range specified on the MSDS or product specification sheet)

Based on U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel

Foundries – Background Information for Proposed Standards (EPA 453/R-02-013),  
December 2002

3. The facility may not take credit for any other reductions of VOC or HAP emissions from Mold and Core making Operations at the facility without further evaluation by the department.
  4. Record the VOC and HAP content in weight percent for all other VOC-containing and HAP-containing materials used at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. The facility shall assume that 100% of the VOC and HAP in these materials are emitted:
- G. The facility may apply a control efficiency of 98% for amine emissions that are controlled by the scrubbers CE-82 and CE-11. The facility shall assume all of the amine is emitted when it is emitted through EP-2.
- H. The facility shall calculate the VOC and HAP emissions that occur during the pouring, cooling, and shakeout operations. The facility shall calculate the emissions using the most recent and relevant emissions factors available.
- I. The permittee shall maintain the following monthly records:
1. The identification of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources.
  2. The amount of each VOC-containing or HAP-containing material used in all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources. For the purposes of calculating emissions, all VOC or HAP may be considered emitted on the day the materials are delivered to the facility or to the production line.
  3. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  4. The 12-month rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  5. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  6. The 12-month rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  7. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  8. The 12-month rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
- J. If the 12-month rolling total of the VOC emissions exceeds 184 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations for VOC emissions shall continue until the 365-day rolling total of the amount of VOC emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 184 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of VOC emissions will cease per condition K. If the emissions once again exceed 184 tons, daily recordkeeping will be required per condition K.

- K. If the 12-month rolling total of all cumulative HAP emissions exceeds 17.6 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of all cumulative HAP emissions shall continue until the 365-day rolling total of the amount of all cumulative HAP emissions from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 17.6 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of cumulative HAP emissions will cease per condition L. If the emissions once again exceed 17.6 tons, daily recordkeeping will be required per condition L.

- L. If the 12-month rolling total of any individual HAP emitted exceeds 7.2 tons, the permittee shall immediately begin keeping the following daily records:
1. The amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.
  2. The 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources, in tons.

Daily calculations of individual HAP emissions shall continue until the 365-day rolling total of the amount of emissions of each individual HAP from all sources at this facility, excluding combustion, welding, the heat treat furnaces, and melting sources drops below 7.2 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of emissions of each individual HAP will cease per condition M. If the emissions once again exceed 7.2 tons, daily recordkeeping will be required per condition M.

- M. The permittee may take credit for any waste VOC shipped off-site. The permittee shall record the amount of the waste shipped off-site each day, and analyze the VOC content of the waste once every calendar quarter. The sample analyzed shall be taken as a representative sample (as defined in 40 CFR §260.10) of the waste sent off-site for that quarter and shall be used as representative until the subsequent quarter's analysis is received. The credit (calculated from the most current analysis and the amount shipped off-site) may be subtracted from the VOC rolling totals as of the date the waste is shipped off-site.
- N. The permittee shall maintain the Material Safety Data Sheets (MSDS) for each VOC-containing or HAP-containing material used at the facility.

Authority for Requirement: Iowa DNR Construction Permit 07-A-759-S3

**Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

Stack Height, (ft, from the ground): Vents Inside Building

Stack Opening, (inches, dia.): Vents Inside Building

Exhaust Flow Rate (acfm): Vents Inside Building

Exhaust Temperature (°F): Vents Inside Building

Discharge Style: Vents Inside Building

Authority for Requirement: Iowa DNR Construction Permit 07-A-759-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.*

**Agency Approved Operation & Maintenance Plan Required?**                      Yes  No   
See Appendix A

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

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

Authority for Requirement: 567 IAC 22.108(3)

## **IV. General Conditions**

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

### **G1. Duty to Comply**

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

### **G2. Permit Expiration**

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

### **G3. Certification Requirement for Title V Related Documents**

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

#### **G4. Annual Compliance Certification**

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

#### **G5. Semi-Annual Monitoring Report**

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

#### **G6. Annual Fee**

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
  - a. Form 1.0 "Facility Identification";
  - b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
  - c. Form 5.0 "Title V annual emissions summary/fee"; and
  - d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
  - a. Form 1.0 "Facility Identification";
  - b. Form 5.0 "Title V annual emissions summary/fee";
  - c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.

7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.

8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

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

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

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

#### **G8. Duty to Provide Information**

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

#### **G9. General Maintenance and Repair Duties**

The owner or operator of any air emission source or control equipment shall:

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

#### **G10. Recordkeeping Requirements for Compliance Monitoring**

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

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

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance

records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

- a. Comply with all terms and conditions of this permit specific to each alternative scenario.
- b. Maintain a log at the permitted facility of the scenario under which it is operating.
- c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

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

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

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

- a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;
- b. Compliance test methods specified in 567 Chapter 25; or
- c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

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

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

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

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

#### **G13. Hazardous Release**

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

#### **G14. Excess Emissions and Excess Emissions Reporting Requirements**

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a

violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. A variance from this subrule may be available as provided for in Iowa Code section 455B.143. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

## 2. Excess Emissions Reporting

a. Initial Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An initial report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1) ) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The initial report may be made by electronic mail (E-mail), in person, or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and expected duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps being taken to remedy the excess emission.
- vi. The steps being taken to limit the excess emission in the interim period.

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

- i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

- vi. The steps that were taken to limit the excess emission.
- vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The facility at the time was being properly operated;
- c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
- d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice fulfills the requirement of paragraph 22.108(5)"b." – See G15. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. *567 IAC 22.108(16)*

#### **G15. Permit Deviation Reporting Requirements**

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

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

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

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

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

- a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.
- b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
- d. The changes are not subject to any requirement under Title IV of the Act (revisions affecting Title IV permitting are addressed in rules 567—22.140(455B) through 567 - 22.144(455B));
- e. The changes comply with all applicable requirements.
- f. For each such change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:
  - i. A brief description of the change within the permitted facility,
  - ii. The date on which the change will occur,
  - iii. Any change in emission as a result of that change,
  - iv. The pollutants emitted subject to the emissions trade
  - v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
  - vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
  - vii. Any permit term or condition no longer applicable as a result of the change.

*567 IAC 22.110(1)*

- 2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*
- 3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*
- 4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*
- 5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

**G18. Duty to Modify a Title V Permit**

1. Administrative Amendment.

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

- i. Correct typographical errors
    - ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;
    - iii. Require more frequent monitoring or reporting by the permittee; or
    - iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.
  - b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.
  - c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.
2. Minor Title V Permit Modification.
- a. Minor Title V permit modification procedures may be used only for those permit modifications that satisfy all of the following:
    - i. Do not violate any applicable requirement;
    - ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit;
    - iii. Do not require or change a case by case determination of an emission limitation or other standard, or an increment analysis;
    - iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act;
    - v. Are not modifications under any provision of Title I of the Act; and
    - vi. Are not required to be processed as significant modification under rule 567 - 22.113(455B).
  - b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:
    - i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
    - ii. The permittee's suggested draft permit;
    - iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
    - iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).
  - c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a"

to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against the facility.

### 3. Significant Title V Permit Modification.

Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, as those requirements that apply to Title V issuance and renewal.

The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.111-567 IAC 22.113*

#### **G19. Duty to Obtain Construction Permits**

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

#### **G20. Asbestos**

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

#### **G21. Open Burning**

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

#### **G22. Acid Rain (Title IV) Emissions Allowances**

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

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

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

- a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
  - b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
  - c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
  - d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
  - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,
5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

#### **G24. Permit Reopenings**

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*
2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as

practicable, but not later than 18 months after the promulgation of such standards and regulations.

- a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
  - b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to May 15, 2001.
  - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*
3. A permit shall be reopened and revised under any of the following circumstances:
- a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to July 21, 1992, provided that the reopening may be stayed pending judicial review of that determination;
  - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
  - c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
  - d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
  - e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*
4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*
5. A notice of intent shall be provided to the Title V source at least 30 days in advance of the date the permit is to be reopened, except that the director may provide a shorter time period in the case of an emergency. *567 IAC 22.114(3)*

## **G25. Permit Shield**

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
  - a. Such applicable requirements are included and are specifically identified in the permit;  
or
  - b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
3. A permit shield shall not alter or affect the following:
  - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
  - b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
  - d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

#### **G26. Severability**

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

#### **G27. Property Rights**

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

#### **G28. Transferability**

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

#### **G29. Disclaimer**

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

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

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

altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

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

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

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

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

### **G31. Prevention of Air Pollution Emergency Episodes**

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

*567 IAC 26.1(1)*

### **G32. Contacts List**

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

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

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

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

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

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

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

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

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

**Field Office 5**

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

**Field Office 6**

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

**Polk County Public Works Dept.**

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

**Linn County Public Health**

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

## **Appendix A: Agency Approved O&M Plans and CAM Plans**

## EP 1 – Torit Down-Flow Cartridge Dust Collector (CE 1-1) Compliance Assurance Monitoring (CAM) Plan

### 1.0 Purpose

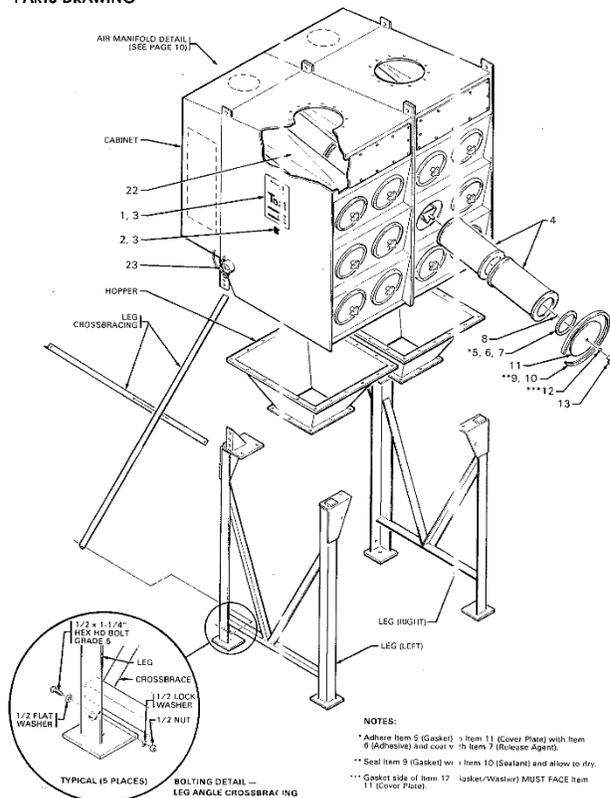
The Wellman Dynamics Emission Control Equipment Compliance Assurance Monitoring (CAM) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The CAM plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

**Description:** EP-1 Permit No. 85-A-055-S6  
East Wall Torit Exhaust (Sand Mixers, Wheelabrator)

**Emission Units:** OMCO Mixer (EU 1-1), 450 Mixer (EU 6-1), Palmer Mixer (EU 15-1), 250 Mixer (EU 16-1), Wheelabrator (EU 28-1), Silo C (EU 15-2), Silo D (EU 15-3)

### Control Equipment Information:

#### PARTS DRAWING



**Maintenance Asset Number: D10110**  
 24; Canister Filters each 12 3/4" Dia x 26" Long  
 12 Blow Pipes  
 Total cartridge filter area = 5425 ft<sup>2</sup>



## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Daily

The daily inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and excursions from the normal operating range.

- Inspect manometer to ensure pressure drop is within normal operating range, if pressure drop is out of range notify maintenance and write work order to correct deviation immediately.
- Visible emissions shall be observed for on a daily basis to ensure no visible emissions are present. If visible emissions are observed notify maintenance and write a work order to correct deviation immediately.
- Ensure broken bag detector is not alarmed; if there is an alarm notify maintenance and write work order to correct immediately.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C. corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All inspection and maintenance records required to be kept by this plan shall be kept in the Environmental Department for a period not less than 5 years.

## EP01a – Flex-Kleen Atmospheric Vent (CE 1-1a) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



#### **Flex Kleen Atmospheric Vent Maintenance Asset Number: D10001**

Model #: 36-BUS-25-I

Serial #: 12-52-17634

25; Filter Bags each 2 1/2" Dia x 101 1/2" Long  
Total cartridge filter area = 134 ft<sup>2</sup>

Diaphragm - Flex Kleen 5 bolt - 1 piece - Model#  
M0909

### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be

performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Tri-Annually – As Required

The tri-annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove bags from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter bags and seal unit
- Start unit and confirm operation of pulsers

## **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 3 – Fabri Jet Atmospheric Vent Dust Collector (CE4-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion,

evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Tri-Annually – As Required

The tri-annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove bags from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter bags and seal unit
- Start unit and confirm operation of pulsers

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 5 – Chill Spray Booth (CE 5-1) Compliance Assurance Monitoring (CAM) Plan

### 1.0 Purpose

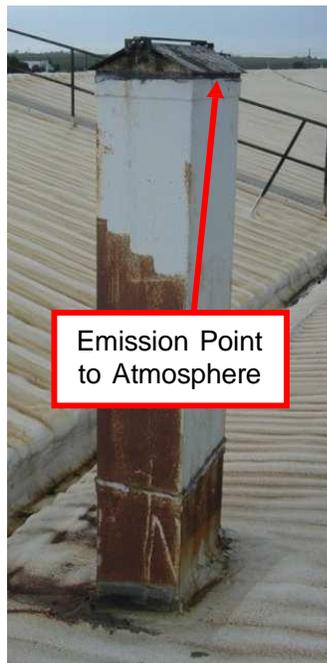
The Wellman Dynamics Emission Control Equipment Compliance Assurance Monitoring (CAM) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The CAM plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

**Description:** EP-5 Permit No. 99-A-784-S5  
Chill Spray Booth Exhaust

**Emission Units:** Chill Spray Booth (EU 18-1)

### Control Equipment Information:

### MAINTENANCE INFORMATION: (Asset Number: S14224)



## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed by the Environmental and Safety Department/Foundry Support and detail a visual inspection for emission or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during the material handling operation of the unit. The facility does not complete visual opacity readings and any visible emission would be an out of range indicator. If visible emissions are observed this would be an exceedance not a violation and action will be taken as soon as possible.
- If the control equipment has a manometer check and record the pressure drop. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may be an indicator that maintenance may be required.
- Check and change air filter as needed.

### Monthly

The monthly inspection will be completed by the Maintenance Department/Foundry Support and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check hoses for leaks and operation
- Check and change air filter as needed
- Check and clean blower wheel for cabinet

## **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 10 – Donaldson Dust Collector & Cyclone (CE 2-1; CE 16-1) Operation & Maintenance (O&M) Plan

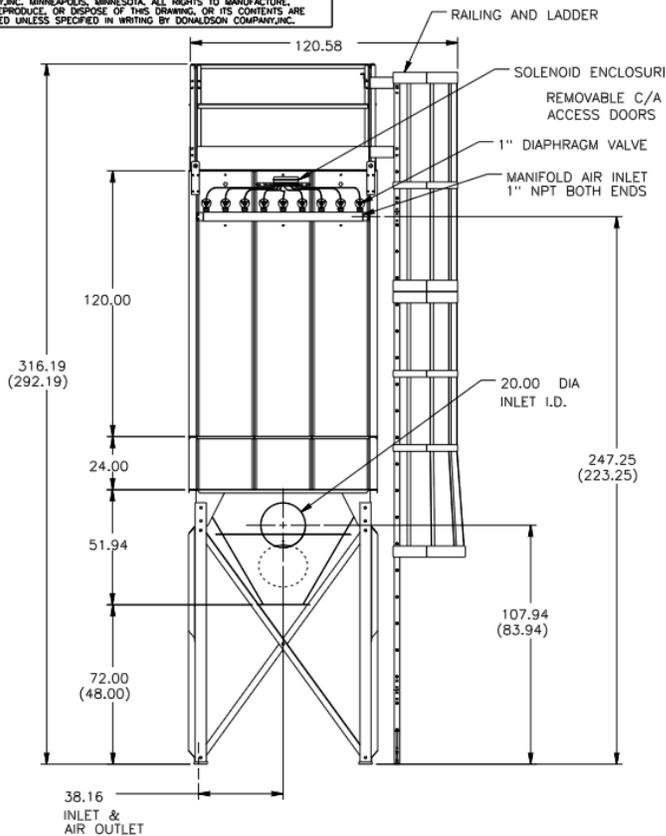
### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



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**Donaldson 81MBT10 Baghouse**  
**Maintenance Asset Number: D10112**

SPECIFICATIONS FOR 81MBT10

NO. OF FILTER BAGS: 81  
 FILTER BAG DIM'S: 6.125 DIA X 120 LONG  
 ACTUAL FILTER AREA: 1,299  
 FILTER MEDIA: DURA-LIFE  
 NO. OF VALVES: 9  
 WIND LOAD RATING: 100 MPH  
 SEISMIC RATING: ZONE 4  
 HOUSING RATING: ± 20" H<sub>2</sub>O  
 P RED: 0.34 BAR  
 COMPRESSED AIR REQUIRED: 90-100 PSI  
 AIR CONSUMPTION: 1.77 SCF @ 90 PSI/PULSE  
 REMOTE MOUNTED TIMER: 120 VAC 50-60 HZ NEMA 4  
 CONSTRUCTION: 12 GA MILD STEEL  
 FINISH: BLUE  
 OPERATING TEMPERATURE: 150 ° F MAX  
 WEIGHT: 7300 LBS (48" NON-VENTED & VENTED)  
 7600 LBS (72" NON-VENTED & VENTED)

**2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions

during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.

- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove bags from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter bags and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

## **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 11 – Dakota Packed Tower Scrubber (CE 11-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



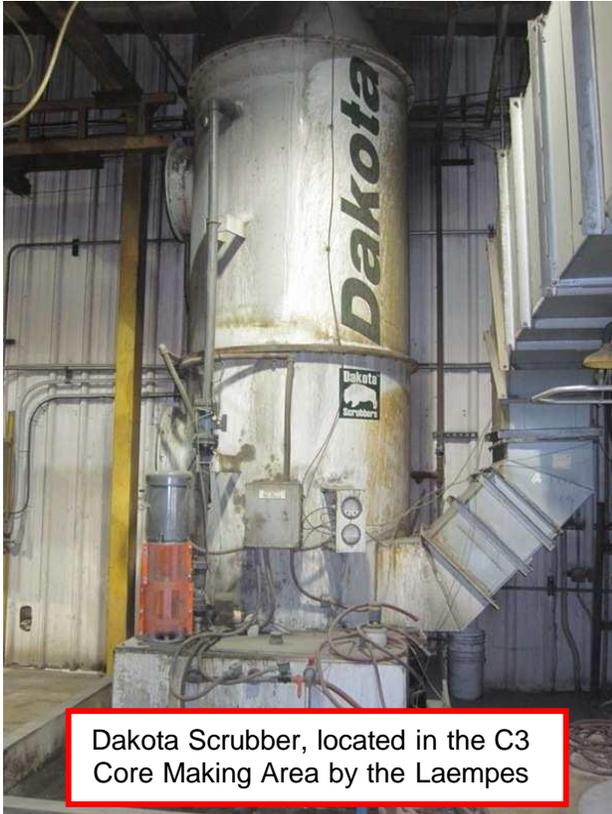
#### TEA Dakota International DI-60 Scrubber

Maintenance Asset Number: S10058

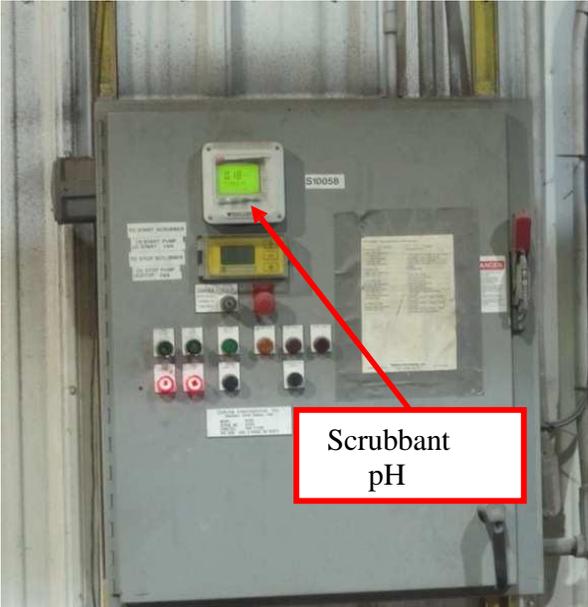
Circulation Pump.....	7.5 HP
Blower.....	7,900 ACFM
Sump Capacity.....	390 gal
Packing Media.....	118 cu ft
Exhaust Fan Motor.....	15.0 HP
Liquid Recirculation Rate.....	78 GPM
Tower Section.....	60" I.D.

Dakota International, Inc.  
Aberdeen, South Dakota, USA

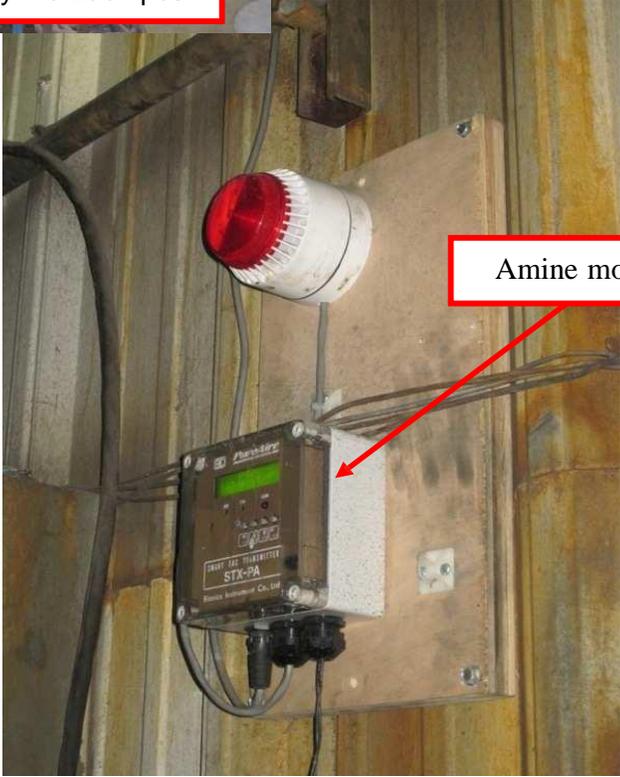
MODEL DI-60  
SERIAL NO. S-203  
FANSTEEL PO# 73780  
VOLTAGE - 480, 3 PHASE, 60 HERTZ



Dakota Scrubber, located in the C3 Core Making Area by the Laempes



Scrubbant pH



Amine monitor

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### **Daily – As Required**

The daily inspections (or as required) will be completed and/or supervised by the Environmental or Maintenance Departments and include:

- Inspect and record the scrubbant pH. If scrubbant pH is below 8.5, report problem to maintenance and write work order to correct.
- Inspect the Amine monitor to ensure it is not alarmed. If Amine monitor is showing an alarm, report problem and write work order to correct.

### **Annually – As Required**

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department. This inspection will include cleaning the scrubber and inspecting the unit as follows:

- Drain, rinse, and regenerate entire scrubber
- Remove any sludge and accumulated debris as necessary
- Check packing media for build-up and replace as necessary
- Inspect shower head for any problems and potential build-up
- Inspect recirculation pump; replace and/or repair as necessary
- Calibrate pH meter using Water Treat equipment
- Check for any electrical problems with the equipment
- Repair or report any problems and write work order to correct
- Reseal unit and start-up; observe flow rate, adjust as necessary

## **3.0 Recordkeeping**

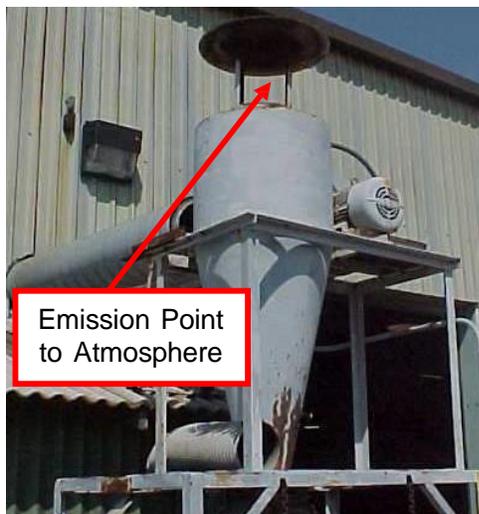
All inspection and maintenance records required to be kept by this plan shall be kept in the Environmental Department for a period not less than 5 years.

## EP 12 – Cyclone (CE 14-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 13 – Torit Dust Collector (CE 15-1) Operation & Maintenance Plan

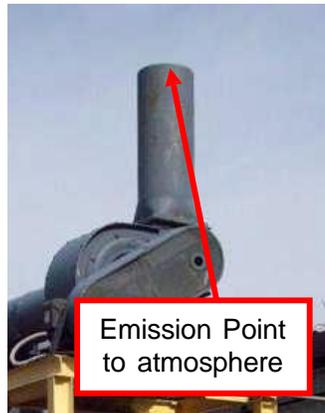
### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



**Maintenance Asset Number: D57113**  
Torit Dust Collector  
4 Bags  
2 Blow Pipes



### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The

preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

#### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

#### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.



1746 Commerce Road, Creston, Iowa 50801

## EP 14 – Torit Donaldson Dust Collector (CE 8-1) Compliance Assurance Monitoring (CAM) Plan

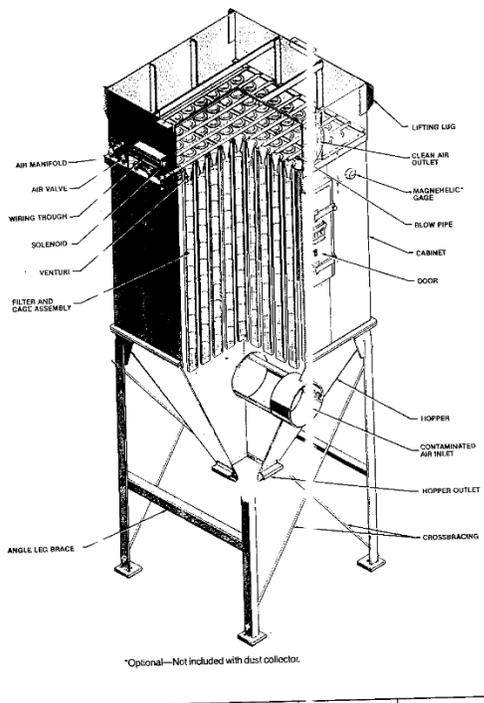
### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Compliance Assurance Monitoring (CAM) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The CAM plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

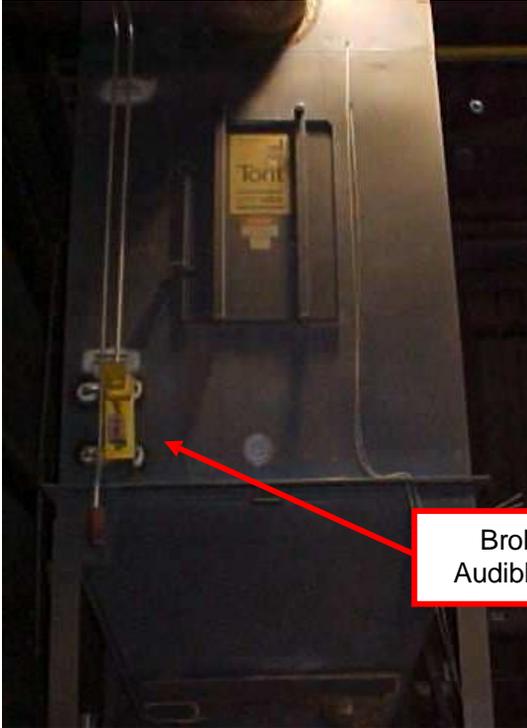
**Description:** EP-14 Permit No. 85-A-054-S3  
Torit Exhaust - Casting Knockout/Sand Reclamation Processes

**Emission Units:** Wheelabrator Blast Cabinet (EU 39-1) Sand Reclamation Unit (EU 40-1)

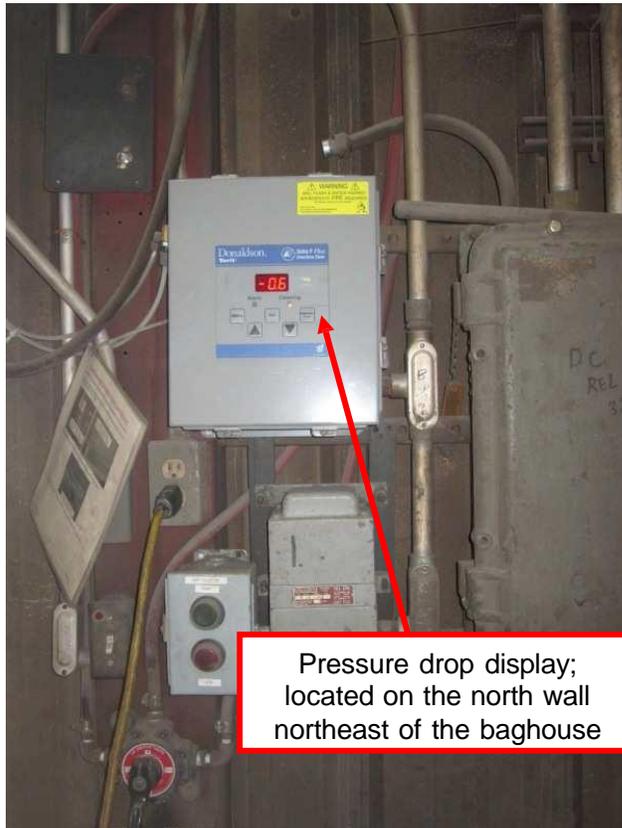
### Control Equipment Information:



**Maintenance Asset Number: D31111**  
Torit Donaldson - Bottom Loader Dust Collector  
Model# TJ1080-255  
Serial# 195154  
  
117; Filter bags 4.625" x 100"  
Total filter area = 1180 ft<sup>2</sup>  
13 Blow Pipes  
Valve - Goyen Model# RCA 6  
Diaphragm - Goyen 5 bolt - Model# unknown



Broken Bag Detector  
Audible and Visual Alarm



Pressure drop display;  
located on the north wall  
northeast of the baghouse

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Daily

The daily inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and excursions from the normal operating range.

- Inspect manometer to ensure pressure drop is within normal operating range, if pressure drop is out of range notify maintenance and write work order to correct deviation immediately.
- Visible emissions shall be observed for on a daily basis to ensure no visible emissions are present. If visible emissions are observed notify maintenance and write a work order to correct deviation immediately.
- Ensure broken bag detector is not alarmed; if there is an alarm notify maintenance and write work order to correct immediately.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- The pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly/Weekly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check seals going to dust hopper
- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove bags from unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace bags and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

## **3.0 Recordkeeping**

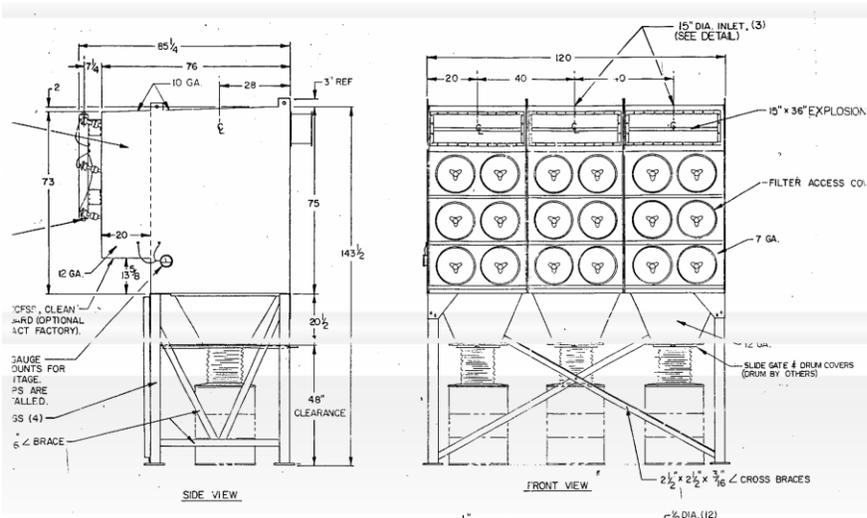
All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 15 – Torit Down-Flow Cartridge Dust Collector (CE 10-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

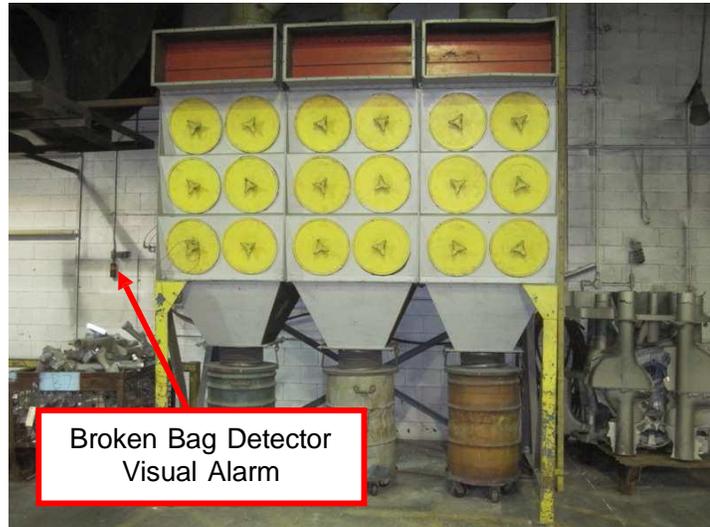
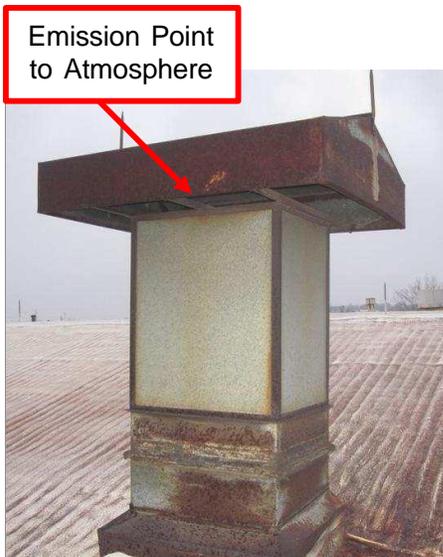
### Control Equipment Information:



**Maintenance Asset Number: D30109**  
Torit Down-Flow Cartridge Dust Collector

36; Canister Filters each  
12 3/4" Dia x 26" Long  
Total filter canister area = 8136 ft<sup>2</sup>

18 blow pipes  
Valve - ASCO RCA 5-6 V6000-630  
Diaphragm - Goyen 2513



## 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check rubber seals on top of dust hopper
- Check belt pulleys for wear
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.





## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Daily

The daily inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and excursions from the normal operating range.

- Inspect manometer to ensure pressure drop is within normal operating range, if pressure drop is out of range notify maintenance and write work order to correct deviation immediately.
- Visible emissions shall be observed for on a daily basis to ensure no visible emissions are present. If visible emissions are observed notify maintenance and write a work order to correct deviation immediately.
- Visually and audibly inspect the control equipment for any abnormal operating

conditions that may indicate maintenance may be required.

#### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

#### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check rubber seals on top of dust hopper
- Check belt pulleys for wear
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

#### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove bags from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filters and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment

- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 23 – Modu-Kleen Atmosphere Vent (CE 18-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Tri-Annually – As Required

The tri-annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 23a – Flex-Kleen Atmospheric Vent (CE 18a) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



**Maintenance Asset Number: D45219**  
**Flex-Kleen Atmospheric Vent**

Model# 58BV16II, Serial# 12-62-15540-0  
4 Blow Pipes

Diaphragm - Goyen 4 bolt - 1 piece - Model# 2015

### 2.0 Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027

Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## EP 81 – Inhibitor Tumbler Dust Collector (CE81) Operation & Maintenance (O&M) Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:



#### **Maintenance Asset Number: D10300**

Wheelabrator bottom loader dust collector

48 total bags with 5" snap band bottom, held by a loop at the top

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range of 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All inspection and maintenance records required to be kept by this plan shall be kept in the Environmental Department for a period not less than 5 years.

## EP 82 – Gaylord Packed Tower Scrubber (CE 82) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

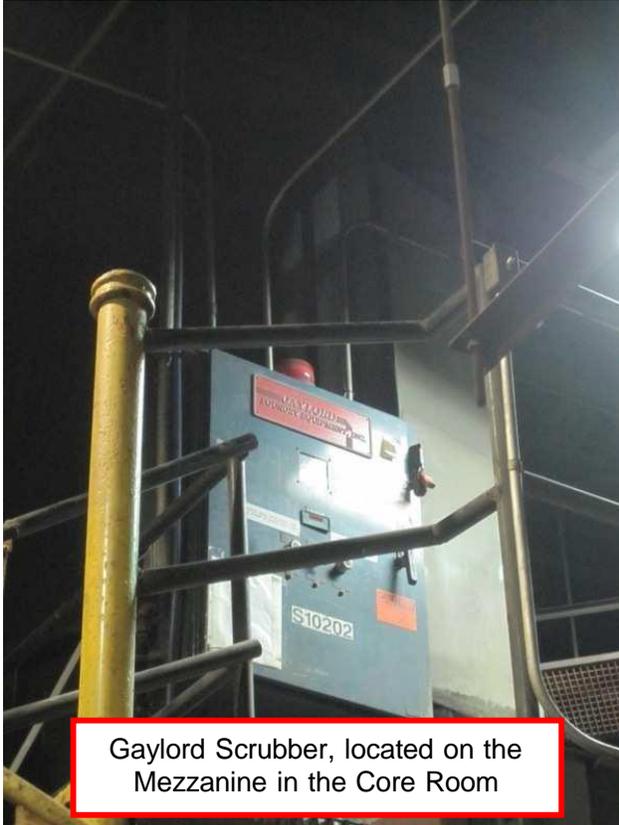
### Control Equipment Information:



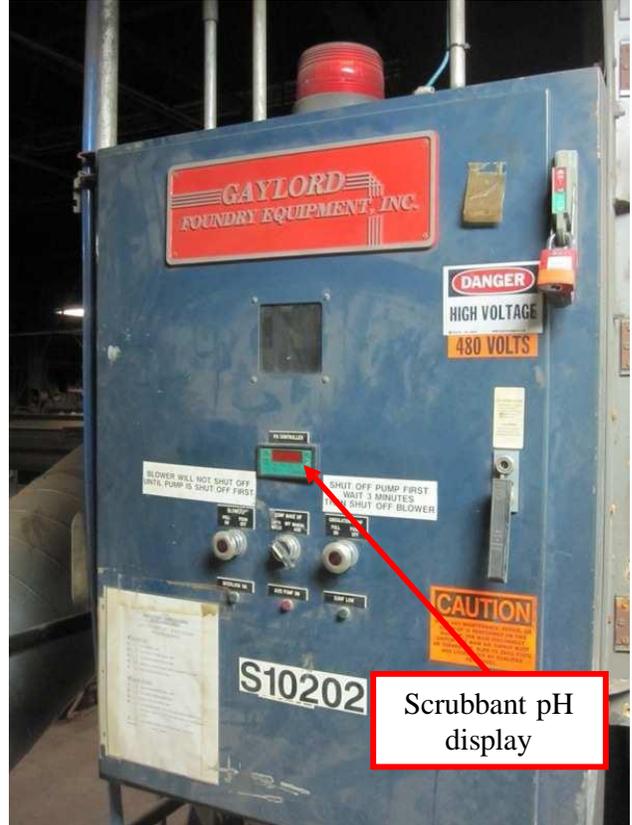
#### TEA Gaylord 8000 A-3 Scrubber

#### Maintenance Asset Number: S10057

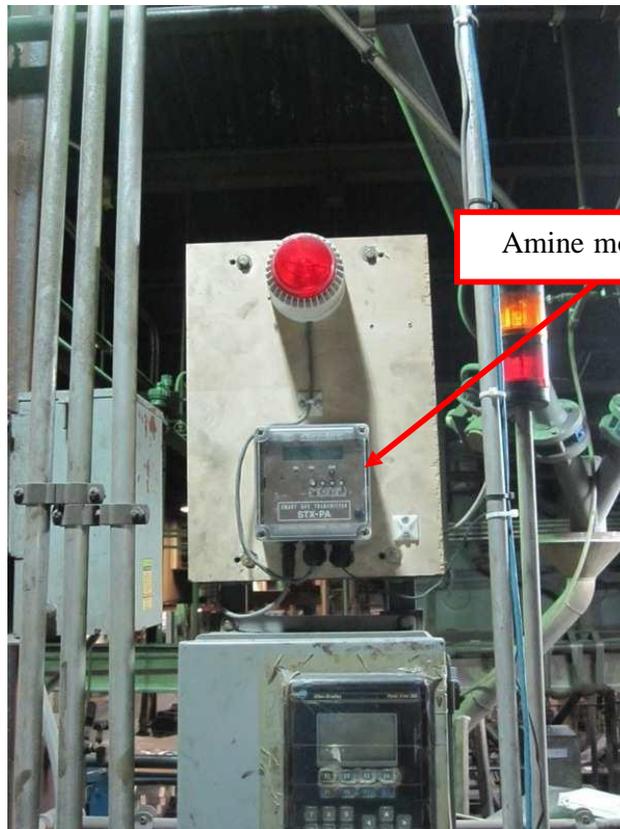
Circulation Pump.....	220 GPM, 7.5 HP
Blower.....	8000 CFM
Sump Capacity.....	400 gal
Packing Media.....	55 cu ft
Transfer Pump.....	8 GPM, ¼ HP
Inlet Intake from core machines.....	24.5" O.D.
Tower Section.....	60" I.D.



Gaylord Scrubber, located on the Mezzanine in the Core Room



Scrubbant pH display



Amine monitor

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### **Daily – As Required**

The daily inspections (or as required) will be completed and/or supervised by the Environmental or Maintenance Departments and include:

- Inspect and record the scrubbant pH. If scrubbant pH is below 8.5, report problem to maintenance and write work order to correct.
- Inspect the Amine monitor to ensure it is not alarmed. If Amine monitor is showing an alarm, report problem and write work order to correct.

### **Monthly**

The monthly inspection will be completed and/or supervised by the Maintenance Department. When applicable the unit will be inspected for:

- Calibrate the pH probe with lab test equipment
- Check blower belts for problems and tightness; if problem replace as needed
- Grease bearings
- Check for any mechanical problems
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### **Semi-Annual – As Required**

The semi-annual inspection will be completed and/or supervised by the Maintenance Department. When applicable the unit will be inspected for:

- Remove top inspection cover and examine the mist eliminator for accumulation of crystals and other debris; clean as necessary
- Check shower head nozzle for vertical alignment, internal obstructions, and excessive corrosion
- Check packing media; clean and replace as necessary
- Check for any electrical problems and write work order to correct as necessary

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department. This inspection will include cleaning the scrubber and inspecting the unit as follows:

- Drain, rinse, and regenerate entire scrubber
- Remove any sludge and accumulated debris as necessary
- Check packing media for build-up and replace as necessary
- Open the tower cap access port and inspect the mist eliminator for accumulation of crystal build-up; clean as necessary.
- Check for any electrical problems with the equipment
- Repair or report any problems and write work order to correct

### **3.0 Recordkeeping**

All inspection and maintenance records required to be kept by this plan shall be kept in the Environmental Department for a period not less than 5 years.

# Wellman Dynamics®

1746 Commerce Road, Creston, Iowa 50801

## EP BLDG F (Internal Venting) – Gaylord Packed Tower Scrubber (CE 19-1) Operation & Maintenance Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Operation & Maintenance (O&M) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The O&M plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

### Control Equipment Information:

**SO<sub>2</sub> Gaylord 4000 A-3 Scrubber**  
**Maintenance Asset Number: S10057**



GAYLORD Scrubber  
Model 4000A-3 S02

#### Models: 4000A-3 S02, 4000A-3 Amine

##### Unit Specifications:

Height .....	13' 10"
Diameter .....	4'0"
Floor Space .....	7'0" by 10'0"
Weight (operational) .....	3,750 lbs. (approximately)
Sump capacity .....	190 gallons
Blower/Motor .....	4,000 cfm, 7.5 h.p.
Transfer pump (caustic/sulphuric acid) .....	4 gpm, 1/4 h.p.
Recirculation pump .....	2 h.p.
Motorized drain valve* .....	17 gpm, 1/2" npt
Polypropylene wet packing media .....	26 cf
Inlet intake from core machines .....	17-7/8" o.d.

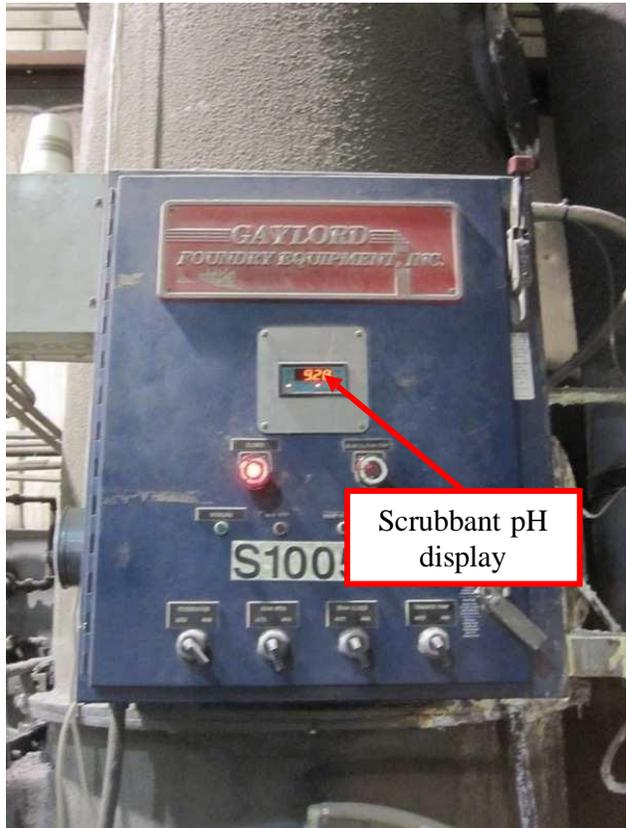
\*On 4000A-3 S02 units only

##### Utilities for 1000A-3 & 4000A-3 Scrubber Series.

Electrical .....	240V/480V 3 phase (Nema 12 control panel)
Water .....	1/2" npt
Drain .....	1-1/2" o.d. hose barb



SO<sub>2</sub> Gaylord Scrubber, located in the North Core Room



Scrubbant pH display



Recirculation line pressure gauge

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### **Daily – As Required**

The daily inspections (or as required) will be completed and/or supervised by the Environmental or Maintenance Departments and include:

- Inspect and record the recirculation line pressure. If line pressure is out of the range 15-21 psi, report problems to maintenance and write work order to correct.
- Inspect and record the scrubbant pH. If scrubbant pH is below 8.5, report problem to maintenance and write work order to correct.

### **Weekly – As Required**

The weekly inspection will be completed and/or supervised by the Maintenance Department. When applicable the unit will be inspected for:

- Verify circulation line pressure is approximately 18 psi
- Check spray nozzle for wear
- Check spray nozzle for any plugging
- Check blower motor for vibrations and operation
- Grease bearings as needed
- Blow dust out of all electric motors
- Change filters weekly

### **Bi-Weekly – As Required**

The bi-weekly inspection will be completed and/or supervised by the Maintenance Department. When applicable the unit will be inspected for:

- Calibrate pH probe with lab test equipment
- Check for any electrical problems
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) of the control equipment will be completed by the Maintenance Department. This inspection will include cleaning the scrubber and inspecting the unit as follows:

- Completely drain down system
- Remove bottom section access cover and any sand or debris from inside
- Inspect underside of lower media support for build-up of crystals and clean as necessary
- Inspect recirculation pump impeller for condition and any plugging from debris
- Inspect spray head for blockages and clean as necessary
- Recharge the system and check operation
- Calibrate pH probe with Water Treat test equipment

### **3.0 Recordkeeping**

All inspection and maintenance records required to be kept by this plan shall be kept in the Environmental Department for a period not less than 5 years.

## EP BLDG F – Torit Down-Flow Cartridge Dust Collector (CE 20-1) Compliance Assurance Monitoring (CAM) Plan

### 1.0 Purpose

The Wellman Dynamics Emission Control Equipment Compliance Assurance Monitoring (CAM) Plan has been developed to maintain the operating requirements detailed in the facilities Title V Permit and Air Quality Construction Permits. The CAM plan takes a predictive and preventive approach through various inspections to resolve any maintenance issues arising with the control equipment. It is designed to quickly ascertain any possible dilemma or issue and resolve the matter as soon as possible.

**Description:** EP-BLDG-F Permit No. 07-A-759-S3  
Torit Cell Exhaust (300, East Cell, and West Cell Mixers)

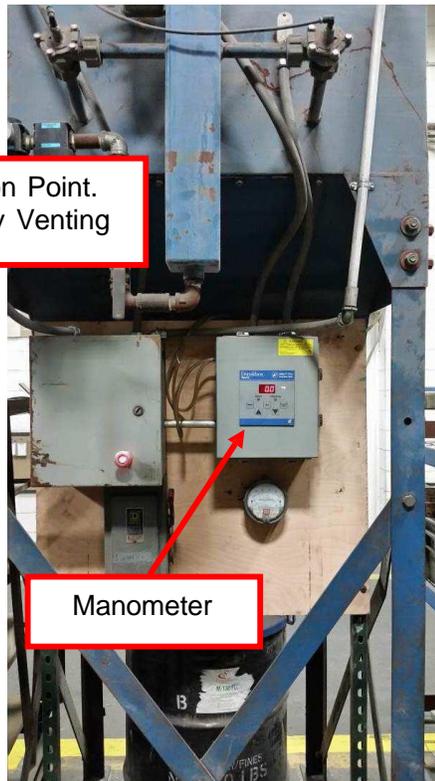
**Emission Units:** 300 Mixer (EU 93-1), East Cell Mixer (EU 4-1), West Cell Mixer (EU 47-1)

### Control Equipment Information:

#### MAINTENANCE INFORMATION: (Asset Number: D10111)



Emission Point.  
Internally Venting



Manometer

## **2.0 Monitoring Guidelines**

The facility makes a commitment to take timely corrective action during periods of excursion where the control equipment is not operating or functioning to design. A corrective action may include; an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return to normal operation. An inventory of spare filter media will be maintained to ensure expedient replacement of any torn or broken filter devices. An excursion does not necessarily indicate a violation of an applicable requirement. Periodic monitoring is not required during periods of time greater than one day in which the source does not operate. The preventative maintenance (daily, weekly, monthly, and annually) tasks will be performed according to the Maintenance Required Schedule, Work Instruction (MTDWI 027 Revision D). The scheduled tasks are not set dates to allow flexibility with production demands, staffing, and equipment.

### Weekly

The weekly inspection will be completed and/or supervised by the Environmental or Maintenance Departments and consist of a visual inspection for emission and/or excursions from the normal operating range.

- Visible emission shall be observed on a weekly basis to ensure no visible emissions during material handling operations of the unit. If visible emissions are observed corrective action will be taken as soon as possible.
- If the control equipment has a manometer, the pressure drop will be observed and recorded. If the pressure drop falls out of the normal operating range 2"-6" W.C corrective action will be taken as soon as possible
- Visually and audibly inspect the control equipment for any abnormal operating conditions that may indicate maintenance may be required.

### Monthly

The monthly inspection will be completed by the Maintenance Department and consist of an external evaluation of the control equipment. When applicable each unit will be inspected for:

- Check blower drive belts for tension, alignment, and wear
- Grease blower bearings
- Check blower wheel for wear
- Check for holes in exhaust stack
- Check intake ductwork for holes
- Check manometer for operation and tubing
- Check exhaust stack for emissions
- Blow dust out of all electric motors
- Check for any electrical problems with equipment
- Repair or report any problems and write work order to correct

### Annually – As Required

The annual inspection (or as required) will be completed by the Maintenance Department and/or an outside vendor. This inspection will include changing the filter media and inspecting the unit as follows:

- Remove cartridges from the unit
- Blow out unit for inspection
- Inspect upper section for any holes to the lower section
- Inspect pulser pipes for holes and misalignment
- Inspect all air lines for leaks
- Repair all items found
- Replace filter cartridges and seal unit
- Start unit and confirm operation of pulsers
- Check for any electrical problems with the equipment
- Repair or report and problems and write work order to correct

### **3.0 Recordkeeping**

All records required to be kept by this plan shall be kept in the Safety and Environmental Office for a period not less than 5 years.

## Appendix B: NESHAP

1. 40 CFR 63 Subpart ZZZZZZ —National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries  
<https://www.ecfr.gov/cgi-bin/text-idx?SID=cb8d0ff074b7715f92f7c0b9ba7f2265&mc=true&node=sp40.16.63.zzzzzz&rgn=div6>