



Louisville Metro Air Pollution Control District  
 701 West Ormsby Avenue, Suite 303  
 Louisville, Kentucky 40203-3137



**June 01, 2021**

**Title V Construction  
 Statement of Basis**

**Source:** Eckart America Corporation  
 4101 Camp Ground Road  
 Louisville, KY 40211

**Owner:** Eckart America Corporation  
 4101 Camp Ground Road  
 Louisville, KY 40211

Application Documents: See Table I-9

Draft Permit: 04/29/2021

Permitting Engineer: Martin J Hazelett

Permit Number: C-0187-20-0022-V

Plant ID: 0187

SIC: 3399

NAICS: 331314

**Introduction:**

This permit will be issued pursuant to District Regulation 2.03, Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements. Its purpose is to provide methods of determining continued compliance with all applicable requirements.

This project is to modify the existing atomization processes of emission units U2, U3, U4, and U8 by increasing the aluminum throughput rate for multiple emission points. Also, there will be installation of multiple new emission points in emission units U2 and U7. This permit action adds the following limits in order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7b), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8 (E-158, E-160, E-164)].

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), particulate matter less than 10 microns (PM<sub>10</sub>), particulate matter less than 2.5 microns (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). Jefferson County is classified as a nonattainment area for ozone (O<sub>3</sub>).

**Permit Application Type:**

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Initial issuance | Permit Revision                         | <input type="checkbox"/> Permit renewal |
|  | <input type="checkbox"/> Administrative |   |
|  | <input type="checkbox"/> Minor          |   |
|  | <input type="checkbox"/> Significant    |   |

**Compliance Summary:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Compliance certification signed | <input type="checkbox"/> Compliance schedule included                 |
| <input type="checkbox"/> Source is out of compliance                | <input checked="" type="checkbox"/> Source is operating in compliance |

## **I Source Information**

### **1. Product Description:**

The source produces aluminum powder and paste.

### **2. Process Description:**

U2: E3, Furnace, increased aluminum process weight throughput rate to 2500 lb/hr from each of two (2) emission stacks (S4 and S5). A combined increase throughput to 5000 lb/hr and addition of secondary control devices, baghouses, C10 and C11. E4, M-7 Screen Room and E6, M-8 Screen Room increased aluminum process rate to 2500 lb/hr each. E-5a, Multicyclone Drum Loading, decrease aluminum process rate to 100 lb/hr rate and Addition of E5b, Filter Container Loading at the aluminum process rate to 20 lb/hr. E-7a, Multicyclone Drum Loading, decrease aluminum process rate to 100 lb/hr and Addition of E-7b, Filter Container Loading at the aluminum process rate to 20 lb/hr.

U3: E-8a, Buhler A Storage Tank, E-8b, Buhler A Weigh Tank, and E-8c, Buhler A Conveyor Pod increased aluminum process rate to 7000 lb/hr from previous 3500 lb/hr rate each.

U4: E-12a, Large Powder Storage Tank 2 and E-15, Tote/Drum Filling Station #2 increased aluminum process rate to 7000 lb/hr from previous 3000 lb/hr rate each.

U7: E-343, Supersack unloader (3000 lb/hr), E-344, Drum unloader (3000 lb/hr), E-345, Air Blender (2750 lb/hr), E-346, Feed Hopper (6300 lb/hr), and E-347, Product containers (6300 lb/hr).

U8: E-158, Repack Drum/Tote Unloading, E-160, Repack Staging Vessel, and E-164, Repack Drum Loading increased aluminum process rate to 5000 lb/hr each.

There are no other facilities that are contiguous or adjacent and under common control.

### **3. Emission Unit Summary:**

| Emission Unit | Equipment Description   |
|---------------|---|
| U2            | E3, Furnace, increased aluminum process weight throughput rate to 2500 lb/hr from each of two (2) emission stacks (S4 and S5). A combined increase throughput to 5000 lb/hr and addition of secondary control devices, baghouses, C10 and C11. E4, M-7 Screen Room and E6, M-8 Screen Room increased aluminum process rate to 2500 lb/hr each. 5a, Multicyclone Drum Loading, decrease aluminum process rate to 100 lb/hr rate and addition of E5b, Filter Container Loading at the aluminum process rate to 20 lb/hr. 7a, Multicyclone Drum Loading, decrease aluminum process rate to 100lb/hr and addition of E7b, Filter Container Loading at the aluminum process rate to 20 lb/hr |
| U3            | E-8a, Buhler A Surge Tank, E-8b, Buhler A Weigh Tank, and E-8c, Buhler A Conveyor Pod increased aluminum process rate to 7000 lb/hr from previous 3500 lb/hr rate each.   |
| U4            | E12a, Large Powder Storage Tank 2 and E-15, Tote/Drum Filling Station #2 increased aluminum process rate to 7000 lb/hr from previous 3000 lb/hr rate each.  |
| U7            | E-343, Supersack unloader (3000 lb/hr), E-344, Drum unloader (3000 lb/hr), E-345, Air Blender (2750 lb/hr), E-346, Feed Hopper (6300 lb/hr), and E-347, Product containers (6300 lb/hr).  |
| U8            | E-158, Repack Drum/Tote Unloading, E-160, Repack Staging Vessel, and E-164, Repack Drum Loading increased aluminum process rate to 5000 lb/hr each.   |

**4. Fugitive Sources :**

Fugitive emissions of dust from any part of the plant are subject to Regulation 1.14, Control of Fugitive Particulate Emissions.

**5. Permit Revisions:**

| Permit No.       | Public Notice Date | Issue Date | Change Type | Description/Scope   |
|------------------|--------------------|------------|-------------|---|
| C-0187-20-0022-V | 04/29/2021         | 06/01/2021 | Initial     | Initial construction permit issuance. This project includes increases of aluminum process throughput rate for multiple processes of U2, U3, U4, U8 and installation of multiple new processes of U2 and U7. |

**6. Application and Related Documents**

| Document Number    | Date       | Description  |
|--------------------|------------|--|
| OB180238, OB180272 | 12/11/2020 | Construction Application 100A, 100B, 100E, and 200A.                                   |
| OB182240           | 01/19/2021 | Email regarding amendment to Construction Application                                  |
| OB182352           | 01/20/2021 | Amendment to Construction Application (U8)   |
| OB183563           | 01/20/2021 | District agreement that filters do not need construction permit                        |
| OB184136           | 01/27/2021 | Construction PTE correspondence  |
| OB186388           | 02/01/2021 | Information on the new filters; does not need construction permit (filters)            |
| OB185553           | 02/01/2021 | Updated U8 construction application  |
| OB186943           | 02/03/2021 | Information on filter efficiency   |
| OB187496           | 02/04/2021 | Approved construction PTE  |
| OB192980           | 02/24/2021 | Eckart construction permit: request for CAM plan for U8 (E-158, E-160, E-164)          |
| OB196741           | 03/05/2021 | Eckart construction permit: Request for equipment clarification C-E-12                 |
| OB197679           | 03/05/2021 | Eckart construction permit: Response request for CAM plan for U8 (E-158, E-160, E-164) |
| OB197680           | 03/08/2021 | Eckart construction permit: Response for equipment clarification C-E-12                |
| OB213899           | 04/22/2021 | Company comments and District response   |

**7. Emission Summary**

| Pollutant (ton/yr)                  | CO  | NOx | SO <sub>2</sub> | PM <sub>10</sub> | VOC | Total HAP | Single HAP |
|-------------------------------------|-----|-----|-----------------|------------------|-----|-----------|------------|
| Project PTE                         | N/A | N/A | N/A             | 849.52           | N/A | N/A       | N/A        |
| Major source trigger (based on PTE) | No  | No  | No              | Yes              | No  | No        | No         |

**8. Applicable Requirements**

- |                                    |   |   |
|------------------------------------|---|---|
| <input type="checkbox"/> 40 CFR 60 | <input checked="" type="checkbox"/> SIP             | <input type="checkbox"/> 40 CFR 63        |
| <input type="checkbox"/> 40 CFR 61 | <input checked="" type="checkbox"/> District Origin | <input checked="" type="checkbox"/> Other |

**9. Referenced Federal Regulations:**

40 CFR Part 64 Compliance Assurance Monitoring for Major Stationary Sources

**10. Non-Applicable Regulations:**

None

**II Regulatory Analysis**

**1. Acid Rain Requirements:**

Eckart America Corporation is not subject to the Acid Rain Program.

**2. Stratospheric Ozone Protection Requirements:**

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Eckart America Corporation does not manufacture, sell, or distribute any of the listed chemicals. The source's use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

**3. Prevention of Accidental Releases 112(r):**

Eckart America Corporation does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

**4. 40 CFR Part 64 Applicability Determination:**

The source is major for PM and a control device is needed to achieve compliance with District Regulation 7.08. In accordance with 40 CFR Part 64, Compliance Assurance Monitoring for Major Stationary Sources, the source was required to propose a CAM plan for PM, based on current process and control device requirements and practices.

For Emission Points E-3 and E-8a, the CAM plan was received by the District on January 15, 2013.

For Emission Points E-158, E-160, and E-164 the CAM plan was received by the District on March 05, 2021.

**5. Basis of Regulation Applicability**

**a. Applicable Regulations**

| <b>Regulation</b> | <b>Title</b>  | <b>Basis</b>  |
|-------------------|---|---|
| 2.05              | Prevention of Significant Deterioration of Air Quality                                  | Establishes requirements for the prevention of deterioration of air quality in regions of the country that currently meet the NAAQS |
| 5.01              | General Provisions  | Establishes general provisions for process equipment from which a toxic air contaminant is or may be emitted.                       |
| 5.20              | Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant  | Establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant.                         |
| 5.21              | Environmental Acceptability for Toxic Air Contaminants                                  | Establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants.                    |
| 5.22              | Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant | Establishes the procedures for determining the maximum ambient concentration of a toxic air contaminant.                            |
| 5.23              | Categories of Toxic Air Contaminants  | Establishes categories of toxic air contaminants.   |
| 6.28              | Standard of Performance for Existing Hot Air Aluminum Atomization Processes             | Establishes standards of performance for existing hot air aluminum atomization processes  |

| Regulation     | Title   | Basis   |
|----------------|---|---|
| 7.08           | Standards of Performance for New Process Operations | Equipment installed after September 1, 1976 and subject to the PM emission standard.  |
| 40 CFR Part 64 | Compliance Assurance Monitoring                     | Applies to each pollutant specific emission unit that is subject to an emission limitation or standard; uses a control device to achieve compliance; and has pre-control emissions that exceed or are equivalent to the major source threshold. CAM applies because the Atomization Furnace, Buhler A Conveyor Pod, and Tote/Drum Fill Stations are subject to emission limitations, use control devices to achieve compliance and have pre-control emissions that exceed the major source threshold. |

**b. Plantwide**

- i. Eckart America Corporation is a major source for PM<sub>10</sub>. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources. Based on the construction PTE evaluation, Eckart America Corporation has accepted PM/PM<sub>10</sub>/PM<sub>2.5</sub> limits (25/15/10) to avoid PSD review for this construction project (C-0187-0022-21-V).
- ii. Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.
- iii. Eckart America Corporation submitted applications 12/11/2020 and 01/20/2021.

U2: E3 De Minimis controlled

U3: E8a modeled in application (HQ<sub>IND</sub> = 0.46 and HQ<sub>NON IND</sub> = 0.092)

U4: E-12a De Minimis controlled

U8: E-158, E-160, E-164 De Minimis controlled

The construction project process equipment listed below are insignificant activities and therefore De Minimis:

U2: E-4, E-5a, E-5b, E-6, E-7a, and E-7b

U3: E-8b and E-8c

U4: E-15

U7: E-343, E-344, E-345, E-346, and E-347

- iv. Regulation 2.03, section 6.1 requires sufficient monitoring, record keeping, and reporting to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.

**c. Emission Unit U2: Hot Air Furnace**

| <b>Emission Point</b> | <b>Description</b>   | <b>Install Date</b> | <b>Applicable Regulations</b> | <b>Control ID</b>      | <b>Release ID</b> |
|-----------------------|--|---------------------|-------------------------------|------------------------|-------------------|
| E-3                   | Atomization Furnace, make PLIBRICO, model: Custom, capacity 5,000 lb/hr <sup>1</sup> , rated pot capacity of 40,000 lb, 8 MMBTU/hr natural gas fired furnace | 1955                | 2.05, STAR, 6.28, 40 CFR 64   | C-E-5, C-E-7, C10, C11 | S-3, S-4, S-5     |
| E-4                   | M-7 Screen Room, make Rotex, model 42AAASS, capacity 2,500 lb/hr <sup>2</sup> (Insignificant Activity – de minimis for STAR)                                 | 1989                | 2.05, STAR, 7.08              | N/A                    | N/A               |
| E-6                   | M-8 Screen Room, make Rotex, model 42AAASS, capacity 2,500 lb/hr <sup>2</sup> (Insignificant Activity – de minimis for STAR)                                 | 1996                |                               | N/A                    | N/A               |
| E-5a                  | Multicyclone Drum Loading, make Dustex, capacity 100 lb/hr (Insignificant Activity – de minimis for STAR)  | 1999                | 2.05, STAR, 7.08              | N/A                    | N/A               |
| E-5b                  | Filter Container Loading, capacity 20 lb/hr <sup>3</sup> (Insignificant Activity – de minimis for STAR)  | 2021                |                               | N/A                    | N/A               |
| E-7a                  | Multicyclone Drum Loading, make Dustex, model M-14, capacity 100 lb/hr (Insignificant Activity – de minimis for STAR)  | 2011                |                               | N/A                    | N/A               |
| E-7b                  | Filter Container Loading, capacity 20 lb/hr <sup>3</sup> (Insignificant Activity – de minimis for STAR)  | 2021                |                               | N/A                    | N/A               |

**U2 Control Devices**

<sup>1</sup>Existing equipment modification (2021): increased aluminum process rate from 3000 lb/hr to 5000 lb/hr.

<sup>2</sup>Existing equipment modification (2021): increased aluminum process rate from 1500 lb/hr to 2500 lb/hr.

<sup>3</sup> New equipment installation (2021), construction application 12/11/2020.



| Control ID | Description  | Control Efficiency |
|------------|--|--------------------|
| C-E-5      | M-13 Dustex 1 Multicyclone to control emissions from Emission Point E-3, rated capacity of 11,000 scfm, installed in 1999.   | 87%                |
| C-E-7      | M-14 Dustex 2 Multicyclone to control emissions from Emission Point E-3, rated capacity of 10,800 scfm, installed in 2011.   | 88.69%             |
| C10        | Induced draft baghouse, Herding, model RESIST 2250-46/9, capacity 11,772 cfm, with Teflon coated polyester cartridge filters | 99.9%              |
| C11        | Induced draft baghouse, Herding, model RESIST 2250-46/9, capacity 11,772 cfm, with Teflon coated polyester cartridge filters | 99.9%              |

**i. Standards**

(1) Opacity

- (a) Regulation 6.28, section 3.1 establishes an opacity standard.
- (b) Regulation 7.08, section 3.1.1 establishes opacity standards.

(2) PM/PM<sub>10</sub>/PM<sub>2.5</sub>

- (a) Regulation 6.28, section 3.2 establishes a PM standard for Emission Point E-3.
- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-4 and E-6 is:  
 $E = 3.59 \times (1.25)^{0.62} = 4.12 \text{ lb/hr}$   
 (It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)
- (c) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-5a and E-5b is:  
 For Process Weight Rate less than 0.5 tons/hr;  
 $E = 2.34 \text{ lb/hr}$   
 (It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)
- (d) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-7a, and E-7b is:  
 For Process Weight Rate less than 0.5 tons/hr;  
 $E = 2.34 \text{ lb/hr}$   
 (It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (e) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8 (E-158, E-160, E-164)] combined in accordance with Regulation 2.05.

(3) TAC

- (a) Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.
- (b) Emission point E-3 is De Minimis controlled. Emission points E-4, E-6, E-5a, E-5b, E-7a, and E-7b are an Insignificant Activities and therefore De Minimis by definition.

**d. Emission Unit U3: Hot Air Direct Convey and Air Slide System**

| Emission Point | Description  | Install Date | Applicable Regulations      | Control ID       | Release ID |
|----------------|--|--------------|-----------------------------|------------------|------------|
| E-8a           | Buhler A Storage Tank, make Kirk & Blum, model: Custom, capacity 7000 lb/hr <sup>4</sup>   | 1995         | 2.05, STAR, 7.08, 40 CFR 64 | C-E-8<br>C-F-007 | S-6        |
| E-8b           | Buhler A Weigh Tank, make Kirk & Blum, model: Custom, capacity: 7000 lb/hr <sup>5</sup> (Insignificant Activity – <i>de minimis</i> for STAR)  | 1995         | 2.05, STAR, 7.08            |                  |            |
| E-8c           | Buhler A Conveyor Pod, make Kirk & Blum, model: Custom, capacity 7000 lb/hr <sup>5</sup> (Insignificant Activity – <i>de minimis</i> for STAR) | 1995         | 2.05, STAR, 7.08            | C-E-8<br>C-F-007 | S-6        |

**U3 Control Devices**

| Control ID | Description   | Control Efficiency |
|------------|---|--------------------|
| C-E-8      | Cyclone, make Kirk & Blum, model: Custom <sup>6</sup> | 75%                |
| C-F-007    | Metal Mesh Filter <sup>7</sup>                        | 86%                |

<sup>4</sup> Existing equipment modification (2021): increased aluminum process rate from 3500 lb/hr to 7000 lb/hr.

<sup>5</sup> Existing equipment modification (2021): increased aluminum process rate from 3500 lb/hr to 7000 lb/hr.

<sup>6</sup> A stack test was performed in September 2018. Data included meter temperature, stack temperature and differential pressure.

<sup>7</sup> A stack test was performed in September 2018. Data included aluminum powder throughput, fan speeds and differential pressure of the atomization and metal mesh filter.

**i. Standards**

(1) Opacity

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards.

(2) PM/PM<sub>10</sub>/PM<sub>2.5</sub>

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-8a is:

$$E = 3.59 \times (3.50)^{0.62} = 7.81 \text{ lb/hr}$$

- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-8b and E-8c is:

$$E = 3.59 \times (3.50)^{0.62} = 7.81 \text{ lb/hr}$$

(It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (c) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons per 12 consecutive month period for emission points E-8a and E-9 combined in accordance with Regulation 2.05.

- (d) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7b), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8 (E-158, E-160, E-164)] combined in accordance with Regulation 2.05.

(3) TAC

- (a) Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

- (b) Emission point E-8a was modeled based on potential controlled emissions. Emission points E-8b and E-8c are an Insignificant Activities and therefore De Minimis by definition.

**e. Emission Unit U4: Hot Air Bin Fill**

| Emission Point | Description   | Install Date | Applicable Regulations | Control ID        | Release ID |
|----------------|---|--------------|------------------------|-------------------|------------|
| E-12a          | Large Powder Storage Tank 2, make Intertech, model: Custom, capacity 7,000 lb/hr <sup>8</sup>   | 2016         | 2.05, STAR, 7.08       | C-E-12<br>C-F-009 | S-11       |
| E-15           | Tote/Drum Fill Station #2, make Tote, model A-74, capacity 7,000 lb/hr <sup>8</sup> (Insignificant Activity – <i>de minimis</i> for STAR) | 1989         | 2.05, STAR, 7.08       | C-E-12<br>C-F-009 | S-11       |

#### U4 Control Devices

| Control ID | Description   | Control Efficiency |
|------------|---|--------------------|
| C-E-12     | Bin Fill 2 Cyclone, Air vent cyclone to control emissions from large powder storage tank #2, make Kirk & Blum, model: Custom, installed 1989 <sup>9</sup> | 42.98%             |
| C-F-009    | Bin Fill 2 Metal Mesh Filter, make BMI Industrial Systems, Model: Custom, capacity 1 cfm, installed 2009 <sup>9</sup>                                     | 99.87%             |

#### i. Standards

##### (1) Opacity

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards.

##### (2) PM/PM<sub>10</sub>/PM<sub>2.5</sub>

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E12a is:

$$E = 3.59 \times (3.50)^{0.62} = 7.81 \text{ lb/hr}$$

- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Point E-15 is:

$$E = 3.59 \times (3.50)^{0.62} = 7.81 \text{ lb/hr}$$

(It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (c) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission

<sup>8</sup> Existing equipment modification (2021): increased aluminum process rate from 3000 lb/hr to 7000 lb/hr.

<sup>9</sup> A stack test was performed in January 2019 for E-128, and uncontrolled and controlled PM emission factors will be used as representative for C-E-12 and C-F-009.

limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7b), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8 (E-158, E-160, E-164)] combined in accordance with Regulation 2.05.TAC

(3) TAC<sup>10</sup>

- (a) Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.
- (b) Emission point E-12a is De Minimis controlled. Emission point E-15 is an Insignificant Activities and therefore De Minimis by definition.

**f. Emission Unit U7: Blending/Repack**

| Emission Point | Description   | Install Date | Applicable Regulations | Control ID | Release ID |
|----------------|---|--------------|------------------------|------------|------------|
| E-343          | Supersack unloader and vibrator, Dynamic Air, HDP 3000, capacity 7000 lb/hr (Insignificant Activity – <i>de minimis</i> for STAR) | 2021         | 2.05, STAR, 7.08       | NA         | S-90       |
| E-344          | Drum unloader and vibrator, Dynamic Air, HDP 3000, capacity 7000 lb/hr (Insignificant Activity – <i>de minimis</i> for STAR)      | 2021         | 2.05, STAR, 7.08       | NA         | NA         |
| E-345          | Air Blender, Dynamic Air, Blendcon Gas Blender, capacity 2750 lb/hr (Insignificant Activity – <i>de minimis</i> for STAR)         | 2021         | 2.05, STAR, 7.08       | C-12       | NA         |
| E-346          | Feed Hopper, Dynamic Air, custom, capacity 6300 lb/hr (Insignificant Activity – <i>de minimis</i> for STAR)                       | 2021         | 2.05, STAR, 7.08       | C-12       | NA         |
| E-347          | Product containers, various, capacity 6300 lb/hr (Insignificant Activity – <i>de minimis</i> for STAR)                            | 2021         | 2.05, STAR, 7.08       | C-12       | NA         |

**U7 Control Devices**

| Control ID | Description  | Control Efficiency |
|------------|--|--------------------|
| C-12       | Baghouse, Dynamic Air, model 1200, series 692 Modu-Kleen | 98%                |

<sup>10</sup> Emission point E-12a is De Minimis controlled. Emission point E-15 is an Insignificant Activities and therefore De Minimis by definition.

**i. Standards**

(1) Opacity

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards.

(2) PM/PM<sub>10</sub>/PM<sub>2.5</sub>

- (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-343 and E-344 is:

$$E = 3.59 \times (3.50)^{0.62} = 7.81 \text{ lb/hr}$$

(It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (b) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-345 is:

$$E = 3.59 \times (1.375)^{0.62} = 4.37 \text{ lb/hr}$$

(It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (c) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-346, and E-347 is:

$$E = 3.59 \times (3.15)^{0.62} = 7.31 \text{ lb/hr}$$

(It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards uncontrolled.)

- (d) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7b), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8 (E-158, E-160, E-164)] combined in accordance with Regulation 2.05.

(3) TAC

- (a) Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.

- (b) Emission points E-343, E344, E345, E346, and E347 are Insignificant Activities and therefore De Minimis by definition.

**g. Emission Unit U8: Rescreens**

| Emission Point | Description   | Install Date | Applicable Regulations      | Control ID | Release ID |
|----------------|---|--------------|-----------------------------|------------|------------|
| E-158          | Repack Drum/Tote Unloading, make Fischer AG, model: Custom, capacity 700 Liters [5000 lb/hr] <sup>11</sup>        | 2004         | 2.05, STAR, 7.08, 40 CFR 64 | C-E-161    | S-66       |
| E-160          | Repack Staging Vessel, make BMI Industrial Systems, model: Custom, capacity 500 Liters [5000 lb/hr] <sup>11</sup> | 2004         | 2.05, STAR, 7.08, 40 CFR 64 |            |            |
| E-164          | Repack Drum Loading, make: Varies, model: 55-gallon drum, capacity 5000 lb/hr <sup>11</sup>                       | 2004         | 2.05, STAR, 7.08, 40 CFR 64 | C-E-165    | S-67       |

## U8 Control Devices

| Control ID | Description  | Control Efficiency |
|------------|--|--------------------|
| C-E-161    | Repack Metal Mesh Filter, make BMI Industrial Systems, model: Custom, capacity 1 cfm, installed 2004 | 99.99%             |
| C-E-165    | Repack Metal Mesh Filter, make BMI Industrial Systems, model: Custom, capacity 1 cfm, installed 2004 | 99.99%             |

### i. Standards

- (1) Opacity
  - (a) Regulation 7.08, section 3.1.1 establishes opacity standards.
- (2) PM/PM<sub>10</sub>/PM<sub>2.5</sub>
  - (a) In accordance with Regulation 7.08, Table 1, PM standard for Emission Points E-158, E-160, and E-164 is:  

$$E = 3.59 \times (2.50)^{0.62} = 6.34 \text{ lb/hr}$$
  - (b) (It has been demonstrated, February 04, 2021, the Emission Points should meet the lb/hr emission standards controlled.) In order to avoid PSD/Nonattainment NSR the permit contains a PM emission limit of <25 tons, PM<sub>10</sub> emission limit of <15 tons, and PM<sub>2.5</sub> emission limit of <10 tons per 12 consecutive month period for emission points [U2 (E-3, E-4, E-5b, E-6, E-7b), U3 (E-8a-c), U4 (E-12a, E-15), U7 (E-343, E344, E345, E346, E347), and U8

<sup>11</sup> Existing equipment modification (2021): increased aluminum process rate to 5000 lb/hr.

(E-158, E-160, E-164)] combined in accordance with Regulation 2.05.

(3) TAC<sup>12</sup>

- (a) Per Regulations 5.00 and 5.21, TAC emissions must not exceed environmentally acceptable levels.
- (b) Emission Points E-158, E-160, and E-164 are De Minimis controlled.

**III Other Requirements**

**1. Temporary Sources:**

The source did not request to operate any temporary facilities.

**2. Short Term Activities:**

The source did not report any short term activities.

**3. Emissions Trading:**

The source is not subject to emission trading.

**4. Alternative Operating Scenarios:**

The source did not request any alternative operating scenarios.

**5. Compliance History:**

| <b>Date</b> | <b>Regulation Violated</b>                             | <b>Settlement</b> |
|-------------|--|-------------------|
| 8/9/2006    | 2.03.5.2 Failure to Comply with District Permit        | Board Order       |
| 3/8/2011    | 2.16.5.2 Failure to Comply with Title V Permit         | Board Order       |
| 6/7/2011    | 2.03.5.2 Failure to Comply with District Permit        | Board Order       |
| 6/7/2011    | 2.03.1.2 Operating Equipment without a District Permit | Board Order       |
| 6/7/2011    | 2.16.5.2 Failure to Comply with Title V Permit         | Board Order       |
| 1/7/2015    | 2.16.5.2 Failure to Comply with Title V Permit         | Agreement         |

**6. Calculation Methodology or Other Approved Method:**

Emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc.) or hours of operation of the equipment by the appropriate emission factor and 1 minus any control device’s efficiency.

<sup>12</sup> Emission points E-158, E-160, and E-164 are De Minimis controlled.



**Unit U2: Hot Air Furnace**

| <b>Equipment</b>              | <b>Emission Point</b> | <b>PM Emission Factor</b>  | <b>Determination Method</b>   |
|-------------------------------|-----------------------|--|---|
| Atomization Furnace           | E-3(S-4)              | 82.84 lb/ton (uncontrolled).<br>0.011 lb/ton (multicyclone & mesh filter controlled) | April 2012 Stack Test on Control Points E-5 and E-7   |
|                               | E-3(S-5)              | 84.84 lb/ton (uncontrolled)<br>0.0096 lb/ton (multicyclone & mesh filter controlled) |   |
| M-7 Screen Room               | E-4                   | 0.12 lb/ton each (uncontrolled)  | AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore |
| M-8 Screen Room               | E-6                   |  |   |
| Multicyclone Drum Loading     | E-5a                  |  |   |
| Filter Container Drum Loading | E-5b                  |  |   |
| Multicyclone Drum Loading     | E-7a                  |  |   |
| Filter Container Drum Loading | E-7b                  |  |   |

**Unit U3: Hot Air Direct Convey and Air Slide System**

| <b>Equipment</b>      | <b>Emission Point</b> | <b>PM Emission Factor</b>  | <b>Determination Method</b>   |
|-----------------------|-----------------------|--|---|
| Buhler A Storage Tank | E-8a                  | 1.97 lb/ton (uncontrolled)<br>0.49 lb/ton (cyclone controlled)<br>0.070 lb/ton (cyclone & mesh filter) | September 2018 Stack Test on Emission Point E-8a  |
| Buhler A Weigh Tank   | E-8b                  | 0.12 lb/ton (uncontrolled)<br>0.030 lb/ton (cyclone controlled)<br>0.004lb/ton (cyclone & mesh filter) | AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore |
| Buhler A Conveyor Pod | E-8c                  |  |   |
| Rail Car Loading      | E-9                   | 1.97 lb/ton (uncontrolled)<br>0.49 lb/ton (cyclone controlled)<br>0.070 lb/ton (cyclone & mesh filter) | September 2018 Stack Test for E-8a  |

**Unit U4: Hot Air Bin Fill**

| Equipment       | Emission Point | PM Emission Factor   | Determination Method  |
|-----------------|----------------|--|---|
| Storage Tanks   | E-12a          | 6.32 lb/ton (uncontrolled)<br>3.92 lb/ton (cyclone controlled)<br>0.005 lb/ton (cyclone & mesh filter)   | <b>January 2019</b> Stack Test for E-128 (U-6)  |
| Filling Station | E-15           | 0.12 lb/ton (uncontrolled)<br>0.074 lb/ton (cyclone controlled)<br>0.0001 lb/ton (cyclone & mesh filter) | AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore |

**Unit U7: Blending/Repack**

| Equipment                       | Emission Point | PM Emission Factor                                       | Determination Method  |
|---------------------------------|----------------|--|---|
| Supersack Unloader and Vibrator | E-343          | 0.12 lb/ton (uncontrolled)                               | AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore |
| Drum Unloader and Vibrator      | E-344          |  |   |
| Air Blender                     | E-345          | 0.73 lb/ton (uncontrolled)<br>0.015 lb/ton (controlled)  | AP-42 Chapter 11.12, Pneumatic Cement Unloading to elevated bin                                     |
| Feed Hopper                     | E-346          | 0.12 lb/ton (uncontrolled)<br>0.0024 lb/ton (controlled) | AP-42 Chapter 11.24; Metallic Mineral Processing; Material Handling and Transfer - low moisture ore |
| Product Container               | E-347          |  |   |

**Unit U8: Rescreen Operation**

| Equipment                  | Emission Point | PM Emission Factor/Rate     | Determination Method   |
|----------------------------|----------------|-----------------------------|--|
| Repack Drum/Tote Unloading | E-158          | 12.75 lb/ton (uncontrolled) | <b>September 2016</b> Stack Test of Repack Drum/Tote Unloading (E-158) |
| Repack Staging Vessel      | E-160          |                             |  |
| Repack Drum Loading        | E-164          |                             |  |

**7. Insignificant Activities**

| <b>Equipment</b>                                 | <b>Qty.</b> | <b>PTE<br/>(ton/yr)</b>  | <b>Regulation Basis</b>       |
|--|-------------|--------------------------|-------------------------------|
| M-7 Screen Room (E-4, see U-2)                   | 1           | 0.66 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| M-8 Screen Room (E-6, see U-2)                   | 1           | 0.66 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Multicyclone Drum Loading (E-5a, see U-2)        | 1           | 0.03 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Filter Container Loading (E-5b, see U-2)         | 1           | 0.01 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Multicyclone Drum Loading (E-7a, see U-2)        | 1           | 0.03 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Filter Container Loading (E-7b, see U-2)         | 1           | 0.01 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Buhler A Weigh Tank (E-8b, see U-3)              | 1           | 1.84 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Buhler A Conveyor Pod (E-8c, see U-3)            | 1           | 1.84 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Tote/Drum Filling Station #2 (E-15, see U4)      | 1           | 1.84 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Supersack Unloader and Vibrator (E-343, see U-7) | 1           | 1.84 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Drum Unloader and Vibrator (E-344, see U-7)      | 1           | 1.84 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Air Blender (E-345, see U-7)                     | 1           | 4.40 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Feed Hopper (E-346, see U-7)                     | 1           | 1.66 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |
| Product Container (E-347, see U-7)               | 1           | 1.66 (PM <sub>10</sub> ) | Regulation 1.02, section 1.38 |

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.
3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.
6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) Basis of Regulation Applicability for IA units