April 21, 2022

Ms. Amy Tempus-Doom, PE
Kentucky Department for Environmental Protection
Division for Air Quality
Permit Review Branch
Metallurgy Section
300 Sower Blvd
Frankfort, KY 40601

RE: Ohio Valley Aluminum Company, LLC
Conditional Major Air Operating Permit Renewal
Agency Interest: 3953
Permit: F-17-054

Dear Ms. Tempus-Doom:

Enclosed are the application documents to renew the existing Conditional Major air operating permit for Ohio Valley Aluminum (OVACO). No changes to the facility have been requested by OVACO since the last revision (F-17-054 R1) in July 2020. We have enclosed the following application forms and supporting information:

- Supplemental Information
- Attachment 1 – Facility Location Map
- Attachment 2 – Process Flow Diagram
- KYDEP Forms 7007Al and 7007FF (Attachments 3 and 4)
If you have any questions regarding these application documents, please let me know and we will respond promptly.

Sincerely,
Ohio Valley Aluminum Company, LLC

[Signature]

Peter L. Raymond, PE
EHS Manager
Contents
Background Information ................................................................. 1
Compliance Requirements ............................................................. 1
Permit Modifications since 2017 Renewal ................................. 2

Attachments
1 – Location Map
2 – Process Flow Diagram
3 – KYDEP Form 7007AI
4 – KYDEP Form 7007FF
Background Information

Ohio Valley Aluminum Company, LLC (OVACO) is a secondary aluminum processing plant located at 1100 Brooks Industrial Road in Shelby County. OVACO operates under SIC Code 3341, which is classified as a Secondary Smelting and Refining of Nonferrous Metals (Aluminum) facility. OVACO is regulated under 401 KAR 52:030, federally-enforceable permits for non-major sources and is classified as a conditional major source, limiting source-wide NOx emissions to less than 90 tons/yr and HCl emissions to less than 9 tons/yr.

OVACO processes coated and uncoated scrap in the three Reverberatory Furnaces #1, #2, and #5. Other emission units located at the facility are Homogenizing Furnaces #5 through #8 and Holding Furnaces #2B and #4. The emissions are controlled by a lime injected baghouse with 99.7% control efficiency. A capture and collection system is used to collect smoke and to control opacity. OVACO does not use any type of flux.

Compliance Requirements

The facility is an area source of hazardous air pollutants. Pursuant to 40 CFR 63.1500(c), the affected facilities (three Reverberatory Furnaces #1, #2, and #5) are only subject to the requirements for dioxin/furan (D/F) emissions. These furnaces are all group 1 furnaces and only for 40 CFR 63, Subpart RRR purposes, they are considered “without add-on air pollution control devices.” Only for D/F emissions, OVACO has chosen to demonstrate compliance for group 1 furnace “without add-on control” in accordance with operating requirements in 40 CFR 63.1506(n), monitoring requirements in
40 CFR 63.1510(o), and the scrap monitoring plan in 40 CFR 63.1510(p). OVACO demonstrated compliance with D/F emission limit during the last stack test conducted on August 30 – September 1, 2016. The facility maintains and will continue to operate the baghouse to meet SIP requirements.

**Permit Modifications since 2017 Renewal**

On April 30, 2020, OVACO submitted an application to modify their existing Conditional Major permit F-17-054 for operation of a secondary aluminum processing facility in Shelbyville, Kentucky. The following changes were made during minor permit revision F-17-054 R1. No other changes have been requested by OVACO since this revision in July 2020.

- Construct a new lime injected fabric filter baghouse to replace the existing Wheelabrator baghouse. The new baghouse is twice the size of the existing baghouse and will allow two (2) furnaces to operate while processing other than clean scrap charge simultaneously.
- Increase aluminum process rate for each of the three Reverberatory Furnaces #1, #2, and #5 to 13 tons/hr for a total maximum process rate of 26 tons/hr. Currently, each furnace is permitted for 10.45 tons/hr for a total maximum process rate of 20.9 tons/hr.
- Updated emission factors that were obtained from different sources as follows:
  - Particulate matter emission factor of 4.3 lb/ton was used from AP-42 Table 12.8-2. This emission factor is determined to be the worst-case as it is higher than the design criteria of 2.0 lb/ton used by the manufacturer.
• HCl emission factor of 0.3 lb/ton was used from the highest test run conducted in 2000. This emission factor is determined to be the worst-case as it is higher than the design criteria of 0.2 lb/ton used by the manufacturer.

• D/F emission factor was set to equal the allowable emission rate of 40 CFR 63, Subpart RRR of 15 ug/Mg until the furnace can be tested at the new throughput.

  ▪ The Division added testing language to Section B of the permit F-17-054 R1 for the new baghouse. The new process rate increase of 13 tons/hr for each furnace is greater than 110 percent of the average production rate of 10.47 tons/hr during the last performance test that was conducted in 2016. Therefore, pursuant to 401 KAR 50:045, Section 5 and Section G – General Provisions, condition G.5, OVACO will perform compliance demonstration testing for the new process rate. The testing will verify the new baghouse efficiency and establish emission factors for PM, HCl, and D/F emissions.

  ▪ Removed the Aluminum sow heater from Section C – Insignificant Activities as it is no longer at the facility.

On July 6, 2020, OVACO submitted an amendment to make additional changes to their F-17-054 R1 permit as follows:

  ▪ All homogenizing and holding furnaces will increase aluminum throughput since they are downstream and directly affected by the increase in melting capacity of the group 1 furnaces. Two (2) holding furnaces and four (4) homogenizing furnaces are currently permitted for the maximum hourly fuel consumption for 8760 hr/yr, which will not change with the increased throughput. The holding furnaces will use
cover flux. The only emissions from the holding furnaces and homogenizing furnaces are from combustion of natural gas, and therefore there is no emissions increase associated with the aluminum throughput increase.

- Modified operating limitations language in the permit to provide clarity:
  
  *Three (3) reverberatory furnaces will simultaneously burn natural gas periodically when the facility needs to heat up the idle furnace and ramp down the furnace that is shutting down, but only two (2) furnaces will process scrap metal simultaneously. The idle furnace must heat up to cure the refractory and melt the “heel” or solid aluminum that is present in the idle furnace before another furnace fully shuts down, but the emission potential is expected to stay the same as the natural gas use increases in the third furnace as it decreases in another furnace.*

- Incorporated a 502(b)10/off-permit change that was approved on June 14, 2018, under activity number APE20180001 to replace EU 13 with EU 14.
ATTACHMENT 1

LOCATION MAP
ATTACHMENT 2

PROCESS FLOW DIAGRAM
ATTACHMENT 3

KYDEP FORM 7007AI
**Division for Air Quality**

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

---

**DEP7007AI**

**Administrative Information**

- Section A1.1: Source Information
- Section A1.2: Applicant Information
- Section A1.3: Owner Information
- Section A1.4: Type of Application
- Section A1.5: Other Required Information
- Section A1.6: Signature Block
- Section A1.7: Notes, Comments, and Explanations

---

**Source Name:** Ohio Valley Aluminum Company, LLC

**KY EIS (AFS) #:** 21-211-00001

**Permit #:** F-17-054

**Agency Interest (AI) ID:** 3953

**Date:** 4/21/2022

---

**Section A1.1: Source Information**

<table>
<thead>
<tr>
<th>Physical Location Address</th>
<th>Street: 1100 Brooks Industrial Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td>Shelbyville</td>
</tr>
<tr>
<td>County:</td>
<td>Shelby</td>
</tr>
<tr>
<td>Zip Code:</td>
<td>40065</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Street or P.O. Box: 1100 Brooks Industrial Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td>Shelbyville</td>
</tr>
<tr>
<td>State:</td>
<td>KY</td>
</tr>
<tr>
<td>Zip Code:</td>
<td>40065</td>
</tr>
</tbody>
</table>

---

**Standard Coordinates for Source Physical Location**

<table>
<thead>
<tr>
<th>Longitude</th>
<th>85.25222 (decimal degrees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>38.209167 (decimal degrees)</td>
</tr>
</tbody>
</table>

---

**Primary (NAICS) Category:** 33131  
**Primary NAICS #:** 331314
<table>
<thead>
<tr>
<th>Classification (SIC) Category:</th>
<th>3341</th>
<th>Primary SIC #: 33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briefly discuss the type of business conducted at this site:</td>
<td>Secondary aluminum melting, alloying, and manufacturing of billets.</td>
<td></td>
</tr>
<tr>
<td>Description of Area Surrounding Source:</td>
<td>□ Rural Area</td>
<td>□ Industrial Park</td>
</tr>
<tr>
<td>Number of Employees:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate distance to nearest residence or commercial property:</td>
<td>~325 feet</td>
<td>Property Area:</td>
</tr>
</tbody>
</table>

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

| NPDES/KPDES: | □ Currently Hold | □ Need | □ N/A |
| Solid Waste: | □ Currently Hold | □ Need | □ N/A |
| RCRA: | □ Currently Hold | □ Need | □ N/A |
| UST: | □ Currently Hold | □ Need | □ N/A |

Type of Regulated Waste Activity:

| Mixed Waste Generator | Generator | Recycler | Other: | U.S. Importer of Hazardous Waste | Transporter | Treatment/Storage/Disposal Facility | N/A |
Section A1.2: Applicant Information

Applicant Name: Ohio Valley Aluminum Company, LLC
Title: (if individual)
Mailing Address: 1100 Brooks Industrial Road
City: Shelbyville
State: KY
Zip Code: 40065
Email: (if individual)
Phone: 502-633-2783

Technical Contact

Name: Peter L. Raymond, P.E.
Title: Corporate EHS Manager
Mailing Address: Peter L. Raymond, P.E.
City: Shelbyville
State: KY
Zip Code: 40065
Email: praymond@ovaco.com
Phone: 502-844-2603

Air Permit Contact for Source

Name: Peter L. Raymond, P.E.
Title: Corporate EHS Manager
Mailing Address: Peter L. Raymond, P.E.
City: Shelbyville
State: KY
Zip Code: 40065
Email: praymond@ovaco.com
Phone: 502-844-2603
### Section AI.3: Owner Information

- **Owner same as applicant**
- **Name:** Matalco (U.S.), Inc.
- **Title:**
- **Mailing Address:**
  - Street or P.O. Box: 5120 Tod Ave
  - City: Lordstown
  - State: OH
  - Zip Code: 44481
- **Email:**
- **Phone:** 234-806-0600

List names of owners and officers of the company who have an interest in the company of 5% or more.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matalco (U.S.), Inc. - 100% owner</td>
<td></td>
</tr>
</tbody>
</table>
### Section AI.4: Type of Application

**Current Status:**
- □ Title V  ☑ Conditional Major  ☐ State-Origin  ☐ General Permit  ☐ Registration  ☐ None
- □ Name Change  □ Initial Registration  □ Significant Revision  □ Administrative Permit Amendment
- □ Renewal Permit  □ Revised Registration  □ Minor Revision  □ Initial Source-wide Operating Permit
- □ 502(b)(10) Change  □ Extension Request  □ Addition of New Facility  □ Portable Plant Relocation Notice
- □ Revision  □ Off Permit Change  □ Landfill Alternate Compliance Submittal  □ Modification of Existing Facilities
- □ Ownership Change  □ Closure

**Requested Status:**
- □ Title V  ☑ Conditional Major  ☐ State-Origin  ☐ PSD  ☐ NSR  ☐ Other: ____________

Is the source requesting a limitation of potential emissions?

- ☑ Yes  □ No

**Pollutant:**
- ☐ Particulate Matter
- □ Volatile Organic Compounds (VOC)
- □ Carbon Monoxide
- ☑ Nitrogen Oxides
- □ Sulfur Dioxide
- □ Lead

**Requested Limit:**
- ☑ Single HAP
- □ Combined HAPs
- □ Air Toxics (40 CFR 68, Subpart F)
- □ Carbon Dioxide
- □ Greenhouse Gases (GHG)
- □ Other

**Pollutant:**
- HCl - 9 TPY

**Proposed Operation Start-Up Date:** (MM/YYYY)

**Proposed Start Date of Construction:** (MM/YYYY)

**Proposed Start Date of Modification:** (MM/YYYY)

**Proposed Operation Start-Up Date:** (MM/YYYY)

Applicant is seeking coverage under a permit shield.
- □ Yes  ☑ No

Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.
### Section A1.5 Other Required Information

Indicate the documents attached as part of this application:

- [ ] DEP7007A Indirect Heat Exchangers and Turbines
- [ ] DEP7007B Manufacturing or Processing Operations
- [ ] DEP7007C Incinerators and Waste Burners
- [ ] DEP7007F Episode Standby Plan
- [ ] DEP7007J Volatile Liquid Storage
- [ ] DEP7007K Surface Coating or Printing Operations
- [ ] DEP7007L Mineral Processes
- [ ] DEP7007M Metal Cleaning Degreasers
- [ ] DEP7007N Source Emissions Profile
- [ ] DEP7007P Perchloroethylene Dry Cleaning Systems
- [ ] DEP7007R Emission Offset Credit
- [ ] DEP7007S Service Stations
- [ ] DEP7007T Metal Plating and Surface Treatment Operations
- [ ] DEP7007V Applicable Requirements and Compliance Activities
- [ ] DEP7007Y Good Engineering Practice and Stack Height Determination
- [ ] DEP7007AA Compliance Schedule for Non-complying Emission Units
- [ ] DEP7007BB Certified Progress Report
- [ ] DEP7007CC Compliance Certification
- [ ] DEP7007DD Insignificant Activities
- [ ] DEP7007EE Internal Combustion Engines
- [X] DEP7007FF Secondary Aluminum Processing
- [ ] DEP7007GG Control Equipment
- [ ] DEP7007HH HAUL Roads
- [ ] Confidentiality Claim
- [ ] Ownership Change Form
- [ ] Secretary of State Certificate
- [ ] Flowcharts or diagrams depicting process
- [ ] Digital Line Graphs (DLG) files of buildings, roads, etc.
- [ ] Site Map
- [X] Map or drawing depicting location of facility
- [ ] Safety Data Sheet (SDS)
- [ ] Emergency Response Plan
- [ ] Other: __________________

### Section A1.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

---

**Authorized Signature**

[Signature]

**Date**

4/25/2022

**President**

**Title of Signatory**

*Responsible official as defined by 401 KAR 52:001.

---

Page 6 of 7
# DEP7007FF
Secondary Aluminum Processing

**Division for Air Quality**

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

---

## Additional Documentation

- Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG
- Attach application design information and analysis
- Process flow diagram
- SDS attached

---

## Source Name:

OHIO VALLEY ALUMINUM COMPANY, LLC

## KY EIS (AFS) #:

21-211-00001

## Permit #:

F-17-054

## Agency Interest (AI) ID:

3953

## Date:

4/21/2022

### Section FF.1: Aluminum Scrap Shredders

<table>
<thead>
<tr>
<th>Emission Unit #</th>
<th>Emission Unit Name</th>
<th>Process ID</th>
<th>SCC Code</th>
<th>SCC Units</th>
<th>Proposed/Actual Date of Construction Commencement (MM/YYYY)</th>
<th>Maximum Design Capacity of Each Unit (SCC Units/hr)</th>
<th>Stack ID</th>
<th>Type of Scrap</th>
<th>Control Device ID</th>
<th>Describe Capture Method</th>
<th>Capture Efficiency (%)</th>
<th>Have ACGIH requirements been completed? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Section FF.2: Dryer or Kiln - Thermal Chip Dryer/Scrap Dryer/Delacquering Kiln/Decoating Kiln

<table>
<thead>
<tr>
<th>Emission Unit #</th>
<th>Emission Unit Name</th>
<th>Process ID</th>
<th>SCC Code</th>
<th>SCC Units</th>
<th>Proposed/Actual Date of Construction Commencement (MM/YYYY)</th>
<th>Rated Burner Capacity (MMBTU/hr)</th>
<th>Fuel(s) Used</th>
<th>Maximum Design Capacity of Each Unit (SCC Units/hr)</th>
<th>Type of Scrap</th>
<th>Stack ID</th>
<th>Control Device ID</th>
<th>Describe Capture Method</th>
<th>Capture Efficiency (%)</th>
<th>Have ACGIH requirements been completed? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Section FF.3: Furnace - Sweat/Reverberatory/Crucible/Induction/Rotary

| Emission Unit # | Emission Unit Name          | Process ID | SCC Code | Proposed/Actual Date of Construction | Furnace Type | Group 1 or 2 | Type of Flux | Maximum Flux Used (b/cycle) | Rated Burner Capacity (MBTU/hr) | Fuel(s) Used | Maximum Design Capacity of Each Unit (SCF/Min.) | Cycle Time (hrs) | Clean Charge? | Sink ID | Control Device ID | Describe Capture Method | Capture Efficiency (%) | Have ACGIH requirements been completed? (Y/N) |
|-----------------|----------------------------|------------|----------|--------------------------------------|--------------|-------------|-------------|-----------------------------|-----------------------------|-------------|-----------------------------------------------|-----------------|--------------|---------|-----------------|----------------------|----------------------|--------------------------|------------------------------------------------|-------------------------|
| 01              | Reverberatory Furnace #1   | 01         | 3-04-001-03 | TonnExisting                         | Open well    | 1           | Cover flux is only used in the holding furnaces; reverse flux is not used in the reverberatory furnaces | 6              | 2 + 16 for a total of 32                  | Natural Gas                  | 13           | N 5-5.5                                      | 5.5              | N            | 1       | Fabric filter (limestone-carbon-injected bag house) | 99                | Y                     |                      |
| 10              | Reverberatory Furnace #5   | 03         | 3-04-001-03 | TonnExisting                         | Open well    | 1           | Cover flux is only used in the holding furnaces; reverse flux is not used in the reverberatory furnaces | 0              | 2 + 16 for a total of 32                  | Natural Gas                  | 13           | N 5-5.5                                      | 5.5              | N            | 1       | Fabric filter (limestone-carbon-injected bag house) | 99                | Y                     |                      |
| 12              | Reverberatory Furnace #2A  | 02         | 3-04-001-05 | TonnExisting                         | Open well    | 1           | Cover flux is only used in the holding furnaces; reverse flux is not used in the reverberatory furnaces | 0              | 2 + 16 for a total of 32                  | Natural Gas                  | 13           | N 5-5.5                                      | 5.5              | N            | 1       | Fabric filter (limestone-carbon-injected bag house) | 99                | Y                     |                      |
| 06              | Aluminum Holding Furnace #2B | 2B         | 3-04-001-09 | TonnExisting                         | Holding     | N/A         | Cover flux only                                  | 75             | 8                                           | Natural Gas                  | 13           | N/A N/A                                      | 5.5              | N/A          | None              | None                        | None                | 0 N/A                 |                      |
| 09              | Aluminum Holding Furnace #4 | 01         | 3-04-001-09 | TonnExisting                         | Holding     | N/A         | Cover flux only                                  | 75             | 8                                           | Natural Gas                  | 13           | N/A N/A                                      | 5.5              | N/A          | None              | None                        | None                | 0 N/A                 |                      |
### Section FF.4: In-Line Fluxer

<table>
<thead>
<tr>
<th>Emission Unit #</th>
<th>Emission Unit Name</th>
<th>Process ID</th>
<th>SCC Code</th>
<th>SCC Units</th>
<th>Proposed/Actual Date of Construction Commencement (MM/YYYY)</th>
<th>Fluxing Agent</th>
<th>HAPS in Flux (Attach SDS to Application)</th>
<th>Maximum Flux Used (lb/hr)</th>
<th>Stack ID</th>
<th>Control Device ID</th>
<th>Describe Capture Method</th>
<th>Capture Efficiency (%)</th>
<th>Have ACGIH requirements been completed? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Section FF.5: Hot Dross - Handling/Pouring

<table>
<thead>
<tr>
<th>Emission Unit #</th>
<th>Emission Unit Name</th>
<th>Process ID</th>
<th>SCC Code</th>
<th>SCC Units</th>
<th>Proposed/Actual Date of Construction Commencement (MM/YYYY)</th>
<th>Maximum Design Capacity of Each Unit (SCC Units/hr)</th>
<th>Stack ID</th>
<th>Control Device ID</th>
<th>Describe Capture Method</th>
<th>Capture Efficiency (%)</th>
<th>Have ACGIH requirements been completed? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Section FF.6: Rotary Dross Cooler

<table>
<thead>
<tr>
<th>Emission Unit #</th>
<th>Emission Unit Name</th>
<th>Process ID</th>
<th>SCC Code</th>
<th>SCC Units</th>
<th>Proposed/Actual Date of Construction Commencement (MM/YYYY)</th>
<th>Maximum Design Capacity of Each Unit (SCC Units/hr)</th>
<th>Stack ID</th>
<th>Control Device ID</th>
<th>Describe Capture Method</th>
<th>Capture Efficiency (%)</th>
<th>Have ACGIH requirements been completed? (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 6 of 8
## Section FF.7: Secondary Aluminum Processing Unit (SAPU) Identification

<table>
<thead>
<tr>
<th>SAPU Identifier (e.g. SAPU A or SAPU 1)</th>
<th>Existing or New SAPU?</th>
<th>Emission Units Included in SAPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAPU 1</td>
<td>Existing SAPU</td>
<td>01, 10, &amp; 12</td>
</tr>
</tbody>
</table>