



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



xx xx 2020

**Federally Enforceable District Origin Operating Permit (FEDOOP)
 Statement of Basis**

Source: River Metals Recycling, LLC
 2114 Metal Ln
 Louisville, KY 40206

Owner: River Metals Recycling, LLC
 2114 Metal Ln
 Louisville, KY 40206

Application Documents:	See Table I-9	Administratively Complete:	August 29, 2019
Draft Permit:	May 30, 2020	Proposed Permit:	May 30, 2020
Permitting Engineer:	Shannon Hosey	Permit Number:	O-1465-20-F
Plant ID: 1465	SIC: 5093	NAICS:	459337

Introduction:

This permit will be issued pursuant to District Regulation 2.17, *Federally Enforceable District Origin Operating Permits*. Its purpose is to limit the plant wide potential emission rates from this source to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements.

This permit action reclassifies the source from Minor to FEDOOP.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀), and particulate matter less than 2.5 microns (PM_{2.5}). Jefferson County is classified as a nonattainment area for ozone (O₃). This facility is located in the portion of Jefferson County that is an attainment area for sulfur dioxide (SO₂).

Permit Application Type:

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Initial issuance | <input type="checkbox"/> 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:

River Metals Recycling is a scrap metal recycling facility.

2. Process Description:

River Metals Recycling obtains and processes scrap metal received from large volume clients and general public. In addition to scrap automobiles, the facility accepts any metal-containing materials, such as refrigerators, cars, small appliances, structural steel, lawnmowers, etc. unless restricted by Kentucky state law, or otherwise prohibited because of safety or environmental risks.

3. Site Determination:

There are no other facilities that are contiguous or adjacent to this facility.

4. Emission Unit Summary:

Emission Unit	Equipment Description
U1	Scrap metal shredder, aluminum shredder, torch cutters, ferrous conveyor and baler, non-ferrous conveyor and baler, shear conveyor, loading/loadout, E-crane, storage piles, and paved roads
U2	Parts washer

5. Fugitive Sources:

The fugitive sources identified by the source are from the torch cutters, ferrous conveyor and baler, non-ferrous conveyor and baler, shear conveyor, loading/loadout, E-crane, storage piles, and paved roads.

6. Permit Revisions:

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
292-03-O	NA	08/31/2003	Initial	Initial Permit Issuance
O-1465-15-M	NA	02/25/2015	Renewal	Combined 2 operating permits (292-03-O and 293-03-O) and incorporated construction permit 405-05-C into single operating permit.
O-1465-15-M (R1)	NA	07/12/2019	Revision	Corrected equipment table to remove baghouse control from EP E4 and E5 (Aluminum Shredder)

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
O-1465-20-F	05/30/2020	xx/xx/2020	Initial	Reclassify from a minor source to a FEDOOP

7. Application and Related Documents

Document Handle	Date	Description
122423	10/17/2019	FEDOOP Application
124317	11/12/2019	Administratively complete letter from APCD
140085	05/08/2020	Comments received from company during public comment period

8. Emission Summary

Pollutant	Potential Emissions (tpy)	Pollutant that triggered Major Source Status (based on PTE)
CO	0	No
NO _x	0	No
SO ₂	0	No
PM ₁₀	49.60	No
VOC	111.23	Yes
Total HAPs	13.78	No
Single HAP > 1 tpy		
Toluene	3.79	No

9. Applicable Requirements

- 40 CFR 60 SIP 40 CFR 63
 40 CFR 61 District Origin Other

10. Referenced Federal Regulations: NA

Non-Applicable Regulations: NA

II Regulatory Analysis

1. 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. River Metal Recycling 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.

2. Prevention of Accidental Releases 112(r):

The source 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.

3. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
2.17	Federally Enforceable District Origin Operating Permits	
STAR	Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs)	
1.14	Control of Fugitive Particulate Emissions	Regulation 1.14 provides for the control of fugitive particulate emissions for any source.
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	Regulation 6.18 applies to cold cleaners.
7.08	Standards of Performance for New Process Operations	Regulation 7.08 establishes emission standards for processes that emit PM which were constructed after September 1, 1976.
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	Regulation 7.25 establishes requirements for VOC for equipment installed after June 13, 1979.

b. Plantwide

River Metal Recycling is potentially major for VOC. Regulation 2.17, *Federally Enforceable District Origin Operating Permits*, establishes requirements to limit the plant wide potential emission rates to below major source threshold levels and to provide methods of determining continued compliance with all applicable requirements. The source

requested limits of VOC less than 100 tons per year, to be classified as a synthetic minor (FEDDOOP) source.

A BACT analysis was submitted on 10/17/2019 for Emission Points E1, E2, and E3, and the company is taking a VOC limit of 60.75 tons in any period of twelve consecutive months.¹ The owner or operator shall drain and remove, to the extent practicable, VOC containing fluids from vehicles appliances, industrial machinery, and other metal scrap received prior to shredding, or shall document that inspections have been performed to confirm the non-existence of VOC containing fluids.²

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. Regulation 2.17, section 5.2, requires monitoring and record keeping 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.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDDOOP is issued to submit an Annual Compliance Certification by April 15, of the following calendar year. In addition, as required by Regulation 2.17, section 5.2, the source shall submit Semi-Annual Compliance Reports to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.17, section 3.5.

River Metals Recycling submitted the TAC Environmental Acceptability (EA) Demonstration to the District on October 17, 2019. Compliance with the STAR EA Goals was demonstrated in the source’s EA Demonstrations. The maximum off-site HQ for all process/process equipment is less than 1.0 and the maximum off-site RC is less than 3.8 for the plantwide cumulative risk, the source has demonstrated compliance with the EA Goals for each TAC.

TAC	Maximum Concentration (µg/m3)	BAC _C (µg/m3)	BAC _{NC} (µg/m3)	R _C	HQ
Cadmium (Cd)	0.0003	0.00056	0.020	0.5	0.015
Hexavalent Chromium (Cr(VI)) ³	0.000035	0.000083	0.008	0.42	0.004
Benzene	0.1619	0.45	30	0.36	0.005

¹ The 60.75 tons in any period of twelve consecutive months comes from the company taking a 500,000 tpy scrap metal throughput operational limit.

² Fluids shall include, but are not limited to, gasoline, motor oil, transmission oil, and hydraulic fluid.

³ The company assumed all chromium was hexavalent chromium.

Ethylbenzene	0.1625	0.40	1000	0.41	2.00E-04
Cumene	0.0169	0.10	400	0.17	4.23E-05
Naphthalene	0.0135	0.029	3	0.47	0.005
Total				2.39	--

c. Emission Unit U1 – Scrap Metal Processing

EP	Description	Control	Applicable Regulations
E1	Scrap Metal Shredder – Hammer Mill	Water Spray ⁴	7.08, 7.25
E2	Scrap Metal Shredder – Conveyors		7.08, 7.25
E3	Scrap Metal Shredder – Magnetic Separation		7.08, 7.25
E4	Aluminum Shredder – Hammer Mill (IA)	Baghouse	7.08
E5	Aluminum Shredder – Conveyors (IA)		7.08
E6	Aluminum Shredder – Magnetic Separation (IA)		7.08
E7	Mobile Torch Cutters, maximum of 18 can be operational throughout the yard for at any one-time (IA)	NA	1.14
E8a	Ferrous Baler (IA)	NA	1.14
E8b	Ferrous Baler Conveyor (IA)	NA	1.14
E9a	Non-Ferrous Baler (IA)	NA	1.14
E9b	Non-Ferrous Baler Conveyor (IA)	NA	1.14
E10	Shear Conveyor (IA)	NA	1.14
E12	Loading/Loadout (IA)	NA	1.14
E13	E-Crane (IA)	NA	1.14
E14	Storage Piles (IA)	NA	1.14
E15	Paved Roads (IA)	NA	1.14

i. Standards and Operation Limits

(1) Opacity

Regulation 7.08, section 3.1.1 and Regulation 1.14, section 2.3 establishes an opacity standard of less than 20%.

⁴ The source utilizes a control efficiency of 67.5% for the water spray.

(2) **PM**

The emission standard for PM for the equipment in the emission unit was determined in accordance with Regulation 7.08, section 3.1.2 as follows:

$$\text{PM lb/hr limit} = 3.59 * (\text{process weight, tons/hr})^{0.62}$$

$$\text{PM lb/hr limit} = 17.31 * (\text{process weight, tons/hr})^{0.16}$$

(3) **VOC**

For Emission Points E1, E2, and E3, based on a BACT analysis submitted October 17, 2019, the VOC emissions are limited to 60.75 tons in any twelve consecutive month period and 500,000 tpy of scrap metal processed.

d. Emission Unit U2: Parts Washers IA7

EP	Description	Applicable Regulations
IA7	One (1) Parts Washer using a VOC solvent, model MDL 30	6.18

i. Standards and Operation Limits

VOC

The parts washers under this unit meet the definition of insignificant activities per Regulation 2.16, section 1.23. However, Regulation 6.18 applies to each cold cleaner that use VOC to remove soluble impurities from metal surfaces. Regulation 6.18 establishes standards for cold cleaner that use VOCs to remove soluble impurities from metal surfaces.

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:

There are no records of any violations of the terms of the present or prior construction or operating permits.

6. Calculation Methodology or Other Approved Method:

Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc.) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District.

Table 1-U1 Scrap Metal Processing

EP	Description	Emission Factor/Calculation Methodology
E1	Shredder-Hammer Mill	Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-10.F for 80% Auto & 20% Scrap throughput mixture. Assume all PM = PM ₁₀ = PM _{2.5} = 0.0403 lbs/ton
E3	Shredder-Magnetic Separation	
E4	Aluminum Shredder – Hammer Mill	
E6	Aluminum Shredder – Magnetic Separation	VOC EF from stack testing at General Iron, Chicago IL, tested on 5/25/2018: VOC = 0.24300 lbs/ton
E2	Shredder-Conveyors	Emission factors for crushed stone conveyor transfer points and screening from AP-42, Chapter 11.19, Table 11.19.2-2 (lbs/ton): PM = 1.4 x 10 ⁻⁴ , PM ₁₀ = 4.6 x 10 ⁻⁵ , and PM _{2.5} = 1.3 x 10 ⁻⁵
E5	Aluminum Shredder – Conveyors	
E7	Torch Cutters	Versar, Inc., Title V Applicability Workbook, Prepared for The Institute of Scrap Recycling Industries, Inc., dated 1996 Assume all PM = PM ₁₀ = PM _{2.5} = 0.06 lbs/hr
E8a	Ferrous Baler	Emission factors (uncontrolled) for tertiary crushing from AP-42, Chapter 11.19, Table 11.19.2-2 (lbs/ton): PM = 0.0054, PM ₁₀ = 0.0024, and PM _{2.5} = 0.0024
E9a	Non-Ferrous Baler	
E10a	Shear	
E10b	Shear Conveyor	Emission factors (uncontrolled) for tertiary crushing from AP-42, Chapter 11.19, Table 11.19.2-2 (lbs/ton): PM = 0.0030, PM ₁₀ = 0.0011, and PM _{2.5} = 0.0011
E8b	Ferrous Baler Conveyor	
E9b	Non-Ferrous Baler Conveyor	
E13	E-Crane	
E12	Loading/Loadout	Emission factors (uncontrolled) for truck loading from AP-42, Chapter 11.19, Table 11.19.2-2: PM = PM ₁₀ = PM _{2.5} = 0.0011 lbs/ton
E14	Storage Piles	Emission factors from AP-42, Chapter 13.2.4 (lbs/ton): PM = 0.00249, PM ₁₀ = 0.00118, and PM _{2.5} = 0.00118

EP	Description	Emission Factor/Calculation Methodology
E15	Paved Roads	Emission factors from AP-42 13.2.1 (lbs/mile): PM = 2.257, PM ₁₀ = 0.451, and PM _{2.5} = 0.111. (Rainfall can be considered using Equation 2)

Table 2-U2 Parts Washer

EP	Description	Emission Factor/Calculation Methodology
IA7	Parts Washer	Mass Balance

7. Insignificant Activities:

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
Containers, reservoirs, or tanks used exclusively for storage of lubricating oils or fuel oils with a vapor pressure of less than 10 mmHg at conditions of 20°C and 760 mmHg. 1 Hydraulic Oil – 1000 gallons 1 Used Oil – 2500 gallons 1 Hydraulic Oil – 10,000 gallons 1 Transformer Oil – 316 gallons 6 Engine Oil, Antifreeze, Gear Oil – 55 gallons 1 Motor Oil – 250 gallons 1 Used Oil – 250 gallons 1 Hydraulic Oil – 500 gallons 1 No. 2 Diesel – 2500 gallons 2 Hydraulic Oil – 75 gallons 1 Hydraulic Oil – 300 gallons 3 Hydraulic Oil – 55 gallons 1 Transformer Oil – 316 gallons 1 Hydraulic Oil – 1000 gallons 1 Used Oil – 1000 gallons 20 Motor Oil, Hydraulic Oil, Transmission Oil, Antifreeze – 55 gallons 1 No. 2 Diesel – 2000 gallons Hydraulic Oil – 3575 gallons 1 Transformer Oil – 316 1 Hydraulic Oil – 1000 gallons 1 Hydraulic Oil – 100 gallons 6 Gear Oil, Used Oil, Kerosene, and City Water – 55 gallons	64	VOC < 1 ⁵	Regulation 1.02, Appendix A, section 3.9.2

⁵ These tanks store gasoline, motor oil, hydraulic oil, fuel oil, No. 2 diesel, used oil, etc. Each tank has a relatively small capacity, a projected low annual turnover rate, and negligible VOC content of material stored. To conservatively over-estimate, River Metals Recycling assumes PTE to be no more than 1 tpy.

Equipment	Qty.	PTE (ton/yr)	Regulation Basis
1 Gear Oil – 100 gallons 3 Transformer Oil – 187 gallons 1 Transformer Oil – 316 gallons 1 Transformer Oil – 1246 gallons 1 Transformer Oil – 316 gallons 1 Transformer Oil – 513 gallons 1 Diesel – 500 1 Motor Oil – 275 1 Hydraulic Oil – 275			
Storage vessels for VOCs with a maximum capacity of 250 gallons or less. Glycol	1	VOC < 1 ⁵	Regulation 1.02, Appendix A, section 3.24
Diesel or fuel oil storage tanks that are not used for distribution, sale or resale, and that have less than two times the capacity of the vessel in annual turnover of the fluid contained.	2	VOC < 1 ⁵	Regulation 1.02, Appendix A, section 3.25

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
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 may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
6. The District has determined that no monitoring, recordkeeping, 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) unit.