

Louisville Metro Air Pollution Control District
701 West Ormsby Ave., Louisville, Kentucky 40203
04 June 2016

Federally Enforceable District Origin Operating Permit
Statement of Basis

Owner/Source: Innovative Crushing & Aggregate, Inc.

Plant Location: 2412 Millers Lane, Louisville, Kentucky 40216

Date Application Received: 01 January 2011
10 March 2014
29 May 2015
07 December 2012

Date of Draft Permit: 04 June 2016

District Engineer: Elise Venard **Permit No:** O-1312-16-F

Plant ID: 1312 **SIC Code:** 1429 **NAICS:** 212319

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.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), 1 hr and 8 hr ozone (O₃), and particulate matter less than 10 microns (PM₁₀); is a non-attainment area for the 1997 standard for particulate matter less than 2.5 microns (PM_{2.5}) and is a unclassifiable area for the 2012 standard for particulate matter less than 2.5 microns (PM_{2.5}) and partial non-attainment for sulfur dioxide (SO₂).

Application Type/Permit Activity:

- Initial Issuance
- Permit Revision
 - Administrative
 - Minor
 - Significant
- Permit Renewal

Compliance Summary:

- Compliance certification signed
- Compliance schedule included
- Source is out of compliance
- Source is operating in compliance

I. Source Information

1. **Product Description:** Innovative Crushing & Aggregate, Inc. specializes in crushing and recycling of rock and construction debris.
2. **Process Description:** Aggregate and construction debris are brought onsite, sorted and processed, then sold for reuse in various industrial or building applications.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent to this facility
4. **Emission Unit Summary:**

Emission Unit	Equipment Description
Plant-wide	Plant-wide requirements
U1	Processing and production equipment. 5 crushers, 6 sorting screens, 12 conveyors
I.A.-1	Minor woodworking equipment and aggregate storage piles

5. **Fugitive Sources:** There are PM emissions from the crushing of rock and construction debris.
6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	39-04-F.	03/31/2006	12/4/2006	Initial	Entire Permit	Initial FEDOOP Issuance
NA	O-1312-16-F	XX/XX/2016	06/04/2016	Renewal	Entire Permit	Permit renewal to incorporate construction permits and STAR exempt status.

7. Construction Permit History:

Permit No.	Issue Date	Description
28767-14-C	7/31/2014	Bandit crusher, Grason screener, Finley conveyor
C-1312-1001-16-F	06/03/2016	Installation of (1) 3-deck screen, electric motor

8. Emission Summary:

Pollutant	District Calculated Emissions (ton/year) 2008	Pollutant that triggered Major Source Status (based on 2015 PTE)
CO	0.0250	Yes
NO _x	0.100	Yes
SO ₂	0.000	No
PM ₁₀	0.769	Yes
VOC	0.001	No
Total HAPs	0.000	No

9. Applicable Requirements:

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

10. MACT Requirements: The source has no future MACT requirements.

11. Referenced Federal Regulations in Permit: 40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants.

II. Regulatory Analysis

1. Acid Rain Requirements: Innovative Crushing and Aggregate 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. Innovative Crushing and Aggregate 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):** Innovative Crushing and Aggregate 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:** Innovative Crushing and Aggregate is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*.
5. **Basis of Regulation Applicability**

- a. **Plant-wide**

This source is a potential major source for the pollutant PM₁₀. 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.

Regulation 2.17, section 5.1 allows the District to incorporate operational limits into the permit. The source requested limits of the criteria pollutant PM₁₀ < 25 tn/yr, to be a FEDOOP STAR Exempt source as defined by Regulation 5.00, section 1.13.5. The source is not major for Greenhouse Gases.

Regulation 2.17, section 5.2, requires monitoring and record keeping assuring 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 5.2 requires sufficient reporting and testing to assure ongoing compliance with the terms and conditions of the permit.

Regulation 2.17, section 7.2, requires stationary sources for which a FEDOOP is issued shall 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 an Annual Compliance Report to show compliance with the permit, by March 1 of the following calendar year. 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.

b. Emission Unit U1 – Processing and Production Equipment

i. Equipment:

P/PE	Description	Capacity	Install Date	Applicable Regulation	Basis for Applicability
Crusher 1 (IA)	Hazmag impact crusher, model APSE/31.5Q, with diesel engine and Seco feeder/hopper.	300 tph	1995	7.08, 40 CFR 60 Subpart OOO	Regulation 7.08 establishes the requirements for PM emissions from new processes that commence construction after September 1, 1976. 40 CFR Part 60, Subpart OOO establishes the standards of performance for nonmetallic mineral processing plants for facilities that commence construction, modification, or reconstruction after August 31, 1983.
Crusher 2 (IA)	Lippmann jaw crusher, with electric motor and Diester feeder/hopper.	300 tph	2004		
Crusher 3	Hartl Crushtek (#1) impact crusher, model Supertrack, with diesel engine and attached feeder/hopper	500 tph	2004		
Crusher 4	Hartl Crushtek (#2) impact crusher, model Supertrack, with diesel engine and attached feeder/hopper	500 toh	2004		
Crusher 5	Bandit crusher, model 3680, with diesel engine and attached feeder/hopper	100 tph	2002		
Screen 1	Powerscreen separating screen, with diesel engine and attached feeder/hopper	300 tph	1995		
Screen 2	Tyler separating screen, with electric motor	300 tph	1995		
Screen 3	CEC Roadrunner finishing screen, with diesel engine	300 tph	1998		
Screen 4	Powerscreen finishing screen, with diesel engine	295 tph	1998		
Screen 5 (IA)	Grason separating screen, model 7203-P, with electric motor	50 tph	2002		
Screen 6	The Red screen separating screen, model 7x20, 3-deck, with electric motor	300 tph	2012		
Conveyor 1 (IA)	Turbo Chieftain, conveyor, with diesel engine	250 tph	1998		
Conveyor 2 (IA)	Terex 65-ft. radial stacking conveyor, with diesel engine	250 tph	1998		
Conveyor 3 (IA)	Screen Machine, model TH-80, conveyor, with diesel engine	300 tph	2014		

P/PE	Description	Capacity	Install Date	Applicable Regulation	Basis for Applicability
Conveyor 4 (IA)	Grayson, side discharge conveyor, with electric motor	50 tph	1998		
Conveyor 5 (IA)	Grayson, side-feed conveyor, with electric motor	100 tph	1998		
Conveyor 6 (IA)	Grayson, radial stacking conveyor, with electric motor	100 tph	1998		
Conveyor 7 (IA)	Grayson, radial stacking conveyor, with electric motor	250 tph	1998		
Conveyor 8 (IA)	Berkshire-Allied, conveyor, with electric motor	150 tph	1998		
Conveyor 9 (IA)	M-100, conveyor, with electric motor	250 tph	1998		
Conveyor 10 (IA)	Grayson, "Side Discharge Package" conveyor, with electric motor	300 tph	2014		
Conveyor 11 (IA)	Grayson, 75-ft., radial stacking conveyor, with electric motor	300 tph	2014		
Conveyor 12 (IA)	Finley, model 530, conveyor, with diesel engine	50 tph	1998		

ii. **Standards/Operating Limits**

1) **PM**

- (a) Regulation 40 CFR Part 60, Subpart OOO establishes the standards of performance for nonmetallic mineral processing plants for facilities that commence construction, modification, or reconstruction after August 31, 1983.
- (b) The emission standard for PM at each emission point with a process throughput of greater than 30 tn/hr is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

$$\text{PM lb/hr limit} = 17.31 (\text{process weight tn/hr})^{0.16}.$$

2) **Opacity**

- (a) Regulation 40 CFR Part 60, Subpart OOO establishes the opacity standard for specific types of nonmetallic processing equipment within this

Emission Unit.

- (b) Regulation 7.08, section 3.1.1 establishes an opacity standard of less than 20%.

iii. **Monitoring and Record Keeping**

1) **PM**

- (a) Regulation 40 CFR Part 60, Subpart OOO establishes monitoring and record keeping requirements for PM wet suppression systems.

III. Other Requirements

1. **Temporary Sources:** None
2. **Short Term Activities:** None
3. **Emissions Trading:** N/A
4. **Operational Flexibility:** None
5. **Compliance History:**

Incid. #	Date	Regulation Violated	Settlement
1759	5/1/1998	Reg. 1.14, section 2.1, Failure to control fugitive emissions of particulate matter that traveled beyond property boundaries.	Agreement with fine 5/21/1998
1908	10/30/1998	Reg. 1.14, section 2.1, Failure to control fugitive emissions of particulate matter that traveled beyond property boundaries.	Agreement with fine 12/1/1998
6228	3/1/2012	Reg. 1.14, section 2.1, Failure to control fugitive emissions of particulate matter that traveled beyond property boundaries.	Agreement with fine 12/7/1998
6700	9/17/14	Reg. 1.14, section 2.1, Failure to control fugitive emissions of particulate matter that traveled beyond property boundaries.	Agreement with fine 4/10/2015
6717	12/12/14	Reg. 1.14, section 2.1, Failure to control fugitive emissions of particulate matter that traveled beyond property boundaries.	Agreement with fine 4/10/2015

6. Calculation Methodology or Other Approved Method:

a. PM₁₀

- i. The PM₁₀ emissions can be determined based on the material throughput and emission factors from AP-42, Chapter 11 Section 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing Table 11.19-22 shown below, unless another method is approved in writing by the District:

Source (Emission factors in lb./ton)	Total PM₁₀	E.F. Rating
Tertiary Crushing (uncontrolled) (SCC 3-05-020-03)	0.0024	C
Screening (uncontrolled) (SCC 3-05-020-02)	0.0087	D
Conveyor Transfer Point (uncontrolled) (SCC 3-05-020-06)*	0.00110	E
Aggregate Storage Pile	0.00152	

*This emission factor can be used for hoppers, feeders, and conveyers

Using the above Emission Factors calculating the tons per month PM₁₀ emissions is as follows:

$$PM_{10}: throughput \left(\frac{tons}{month} \right) \left(Emission\ Factor \frac{lb}{ton} \right) \left(\frac{1\ ton}{2000\ lb} \right) = \frac{tons}{month} \text{ uncontrolled emissions}$$

- 1) The PM₁₀ emissions from Insignificant Activities can be determined when totaling the monthly plant-wide emissions. Since the emissions are minor the owner or operator may use the potential PM₁₀ emissions as the monthly emissions. District approved PM₁₀ PTE for woodworking is 7.17 pound/month. District approved PM₁₀ PTE for the heaters is 107.67 pounds per month.

7. Insignificant Activities

Emission Process	Equipment Description	Quantity	Applicable Regulation	PTE (tpy)	Regulation Basis
Crusher 1	Hazmag model APSE/31.5Q, impact crusher (300 tph) diesel engine (350 hp) and Seco feeder/hopper (300 tph)	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.1	Regulation 1.02
Crusher 2	Lippmann jaw crusher (300 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.1	Regulation 1.02

Emission Process	Equipment Description	Quantity	Applicable Regulation	PTE (tpy)	Regulation Basis
Screen 5	Grason model 7203-P screen (50 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 0.0	Regulation 1.02
Conveyor 1	Grayson side discharge conveyor (50 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 0.24	Regulation 1.02
Conveyor 2	Grayson side-feed conveyor (100 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 0.48	Regulation 1.02
Conveyor 3	Grayson radial stacking conveyor (100 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 0.48	Regulation 1.02
Conveyor 4	Grayson side discharge conveyor (50 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 0.66	Regulation 1.02
Conveyor 5	Grayson side-feed conveyor (100 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 1.31	Regulation 1.02
Conveyor 6	Grayson radial stacking conveyor (100 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 1.31	Regulation 1.02
Conveyor 7	Grayson radial stacking conveyor (250 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.5	Regulation 1.02
Conveyor 8	Berkshire-Allied conveyor (150 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 1.97	Regulation 1.02
Conveyor 9	M-100 conveyor (250 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.29	Regulation 1.02
Conveyor 10	Grayson "Side Discharge Package" conveyor (300 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.94	Regulation 1.02
Conveyor 11	Grayson 75-ft. radial stacking conveyor (300 tph) with electric motor	1	7.08, 40 CFR Part 60, Subpart OOO	PM ₁₀ = 3.94	Regulation 1.02

Emission Process	Equipment Description	Quantity	Applicable Regulation	PTE (tpy)	Regulation Basis
Conveyor 12	Finley, model 530, conveyor (50 tph) with diesel engine (35 hp)	1	7.08, 40 CFR Part 60, Subpart OOO,	PM ₁₀ = 0.48	Regulation 1.02
Woodworking	Woodworking table saw, chop saw, saw drill press, electric operated	1	7.08	PM ₁₀ = 0.04	Regulation 1.02
Storage	Aggregate storage pile (4000 ton)	1	7.08	PM ₁₀ = 0.05	Regulation 1.02
Tanks	Diesel fuel tank (500-gallon)	2	NA	VOC = 0.01	Regulation 1.02, Appendix A
Water heater	Water heater, natural gas, < 10 MMBtu, direct fire	1	NA	NO _x = 4.25 PM ₁₀ = 0.32	Regulation 1.02, Appendix A
Area heater	Area heater, natural gas, < 10 MMBtu/hr., direct fire	1	NA	NO _x = 4.25 PM ₁₀ = 0.32	Regulation 1.02, Appendix A

- 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, 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) unit.

a. **Emission Unit I.A.-1:** Processing and Production Equipment not subject to NSPS or MACT

P/PE	Description	Quantity	PTE (tpy)	Applicable Regulations	Basis for Applicability
Woodworking	Woodworking table saw, chop saw, saw drill press, electric motors	2	PM = 0.04	7.08	Regulation 7.08 establishes the requirements for PM emissions from new processes that commence construction after September 1, 1976.
Storage	Aggregate storage pile, capacity of 4000-tons	1	PM = 0.05		

i. **Standards/Operating Limits**

1) **PM**

(a) The emission standard for PM for the equipment in this Emission Unit is determined in accordance with Regulation 7.08, Table 1. Since the capacity of the equipment is less than 1,000 lb/hr, the PM emission standard is 2.34 lb/hr. The District has performed a one-time PM compliance demonstration for the equipment in this Emission Unit and the lb/hr standard cannot be exceeded uncontrolled. Therefore, there are no monitoring, record keeping, and reporting requirements with respect to PM lb/hr emission limits.

2) **Opacity**

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