

**Louisville Metro Air Pollution Control District**  
**850 Barret Ave., Louisville, Kentucky 40204**  
**23 June 2015**

**Federally Enforceable District Origin Operating Permit**  
**Statement of Basis**

**Company:** Advance Ready Mix – Plant #5

**Plant Location:** 6801 Enterprise Drive, Louisville, Kentucky 40214

**Date Application Received:** 18 March 2008; 29 November 2010; 02 January 2013;  
09 September 2013

**Date of Draft Permit:** 02 March 2013; 23 June 2015

**District Engineer:** Bob Wesely                      **Permit No:** O-1246-15-F

**Plant ID:** 1246                      **SIC Code:** 3273                      **NAICS:** 327320

**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 (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); and is a non-attainment area for particulate matter less than 2.5 microns (PM<sub>2.5</sub>); and partial non-attainment area for sulfur dioxide (SO<sub>2</sub>).

**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

[X] Source is operating in compliance

**I. Source Information**

1. **Product Description:** Advance Ready Mix Plant - #5 is a dry batch ready mix concrete plant.
2. **Process Description:** The dry components of concrete (cement, flyash, sand, and aggregate) are measured and loaded with water into concrete ready mix/transit trucks and transported to offsite delivery locations.
3. **Site Determination:** There are no other facilities that are contiguous or adjacent, but there are three (3) other ready mix plants under common control. The other three plants under common control are listed below:

Advance Ready Mix – Plant #1, 820 E. Water St., Louisville KY 40202

Advance Ready Mix – Plant #2, 201 Clay St., Louisville, KY 40402

Advance Ready Mix – Plant #3, 3098 Element Lane, Louisville, KY 40299

4. **Emission Unit Summary:**

Emission Unit	Equipment Description
U1	One (1) Erie Strayer transit mix ready-mix concrete batch plant, model MG-11T, including an outside aggregate/sand handling conveyor with loading hopper
IA1	Safety-Kleen cold solvent parts washer

5. **Fugitive Sources:** The fugitive sources that were identified by the source are uncontrolled portions of the Erie Strayer ready-mix unit.

6. **Permit Revisions:**

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	27840-13-F	5/18/2013	3/2/2013	Initial	Entire Permit	Initial Permit Issuance
Revision	O-1246-15-F	__/__/2015	6/23/2015	Administrative	Standard	PM <sub>10</sub> < 25 tn/yr to be FEDOOP STAR Exempt Removed TAC requirements Deleted non-applicable Permit Shield, Off-Permit Document, and Alternative Operating Scenario references. Added controlled and uncontrolled emission factors to

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
						clarify how to calculate emissions.

**7. Emission Summary:**

Pollutant	District Calculated Actual Emissions (tn/yr) 2011 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	0	No
NO <sub>x</sub>	0	No
SO <sub>2</sub>	0	No
PM <sub>10</sub>	3.49	Yes
VOC	0.0019	No
Total HAPs	0	No
Single HAP	0	No

**8. Applicable Requirements:**

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

**9. MACT Requirements:** The source has no future MACT requirements.

**10. Referenced Federal Regulations in Permit:** There are no federal regulations for ready mix concrete batch plants.

**II. Regulatory Analysis**

**1. Acid Rain Requirements:** Advance Ready Mix 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. Advance Ready Mix – Plant #5 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):** Advance Ready Mix - Plant #5 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:** Advance Ready Mix – Plant #5 is not subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources*.

5. **Basis of Regulation Applicability**

- a. **Plant-wide**

Advance Ready Mix - Plant #5 is a potential major source for the pollutant PM<sub>10</sub>. 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 is not major for Greenhouse Gases.

Advance Ready Mix – Plant #5 requested a plant wide emission limit of 25 tons per year for the pollutant PM<sub>10</sub> and 300,000 yd<sup>3</sup>/yr of ready mix concrete throughput.

Regulations 5.00 5.21, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Advance Ready Mix – Plant #5 took the total plantwide limits of 25 tpy for criteria pollutants to be a FEDOOP STAR Exempt source.

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 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 – Transit mix concrete batch plant**

- i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E1: Cement silo	93 tn/hr	2/10/97	7.08	Regulation 7.08 establishes the requirements for PM emission from new processes that commences construction after September 1, 1976.
E2: Flyash silo	88 tn/hr	2/10/97		
E3: Aggregate weigh hopper	231 tn/hr	2/10/97		
E4: Cement/Flyash weigh hopper	50 tn/hr	2/10/97		
E5: Truck Loadout	281 tn/hr	2/10/97		
E6: Aggregate stockpiles	NA	2/10/97		
E7: Aggregate handling	NA	2/10/97		
E8: Aggregate transfer conveyor	231 tn/hr	2/10/97		
E9: Aggregate bins	231 tn/hr	2/10/97		
E10: Roads & Yard	NA	2/10/97		
E11: Agg/sand bins loading conveyor	231 tn/hr	2/10/97		
E12: Agg/sand bins loading conveyor hopper	231 tn/hr	2/10/97		

ii. **Standards/Operating Limits**

1) **PM/PM<sub>10</sub>**

- (a) Regulation 2.17, section 5.1, allows the source to set a synthetic limit below the major source threshold. Source selected a synthetic limit of 25 tn/yr of the pollutant PM<sub>10</sub> to remain below the threshold limit for a criteria pollutant and a throughput limit of 300,000 yd<sup>3</sup> of ready mix concrete in a 12 consecutive month period.
- (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**

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

**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:** N/A
4. **Operational Flexibility:** The source did not request any operation flexibility.
5. **Compliance History:**

Date	Regulation Violated	Settlement
6/24/2005	Reg. 2.17, Section 5.2, Visible emissions recorded 5/13/2005, no corrective action recorded	No Action

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

Concrete Batch Plant (U1): Emission factors from AP-42, Chapter 11.12, Concrete Batching, were used to determine Potential To Emit and confirm limits requested by the source.

Cold Solvent Parts Washer (U6) and Degreaser (U8): The following equation shall be used to determine VOC emissions from the cold solvent parts washer with secondary reservoir:

$$q = A * \left( \frac{Pa \cdot Mw}{R \cdot T} \right) * \left( \frac{Di}{Z2 - Z1} \right) * \ln \left( \frac{1}{1 - Yci} \right) * EM$$

Where,

- q = emission rate at the liquid surface, kg/sec
- Pa = (atmospheric pressure) = 760 mmHg = 100 x 10<sup>3</sup> N/m<sup>2</sup>
- R = (Ideal Gas Constant) = 8.314 x 10<sup>3</sup> J/kmol °K
- T = (liquid temperature) = (273.15 + 20) = 293.15 °K
- Z2 - Z1 = empty vapor space above the liquid level in the tank = 0.001m
- EM = 1.1 = 10% increase of the emissions to include working losses.
- Mw = molecular weight, kg/kmol
- Di = Diffusivity through air, m<sup>2</sup>/s
- Yci = volatile fraction of component in air = vapor pressure/ 760 mmHg
- A = surface area, m<sup>2</sup>

7. **Insignificant Activities**

Description	Quan.	PTE (tpy)	Basis for Exemption
Cold solvent parts washer	1	0.00058 VOC	Reg. 1.02, Appendix A
Diesel fuel storage tank, 10,000 gal	1	0.0093 VOC	Reg. 1.02, Appendix A

- a. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
- b. Insignificant activities identified in District Regulation 1.02, Appendix A, shall comply with generally applicable requirements.
- c. The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.
- d. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- e. 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 emission for each piece of equipment.
- f. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- g. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15<sup>th</sup>.

**8. Basis of Regulation Applicability for IA units**

- a. **Emission Unit IA1 – cold solvent parts washer**

- i. **Equipment**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
IA1: parts washer with a secondary reservoir	16 gal	N/A	6.18	Regulation 6.18 applies to each cold cleaner that use VOCs to remove soluble impurities from metal surfaces.

- ii. **Standards/Operating Limits**

- VOC**

- Regulation 6.18, section 4, establishes operating standards for existing cold solvent metal cleaning equipment.

iii. **Monitoring and Record Keeping**

**VOC**

- 1) Regulation 6.18, section 4.4.1, lists the items to be recorded for each sale of cold solvent.
- 2) Regulation 6.18, section 4.4.2, lists the items to be recorded for each purchase of cold solvent.