

Technical Support Document (TSD)

Air Quality Permit 1150

I. General Comments:

A. Company Information

1. CEMEX Construction Materials South, L.L.C. (Pima Mine Road Plant)
2. 13599 S. Old Nogales Highway, Tucson, Arizona 85706

B. Background

Historical records indicate that the sand and gravel mining and processing plant at the above location began operating on May 1, 1997. The initial air quality permit was issued to CalMat Co. of Arizona. Pima County Department of Environmental Quality (PDEQ) authorized the operation of this facility subject to the conditions contained in the Arizona Department of Environmental Quality (ADEQ) general permit for crushing and screening plants.

On May 15, 1998, CalMat Co. of Arizona transferred responsibility, coverage and liability under the general permit to BCW Inc., DBA Sunward Materials. The PDEQ authorization to operate under the general permit was reissued to Sunward Materials on June 4, 1998.

Following a site inspection on October 25, 2000, the crushing and screening operation at the facility was discovered to be operated by CEMEX USA. PDEQ was not informed of the ownership change and subsequently, CEMEX USA was requested to submit a permit application which was received on May 1, 2001.

Following review of the CEMEX USA permit renewal application, it was discovered that the facility had expanded operations to include a concrete batch plant. The resultant expansion meant that CEMEX USA was no longer eligible to be covered under the conditions of the ADEQ general permit; subsequently, the renewal permit was issued as an individual source permit.

On April 4, 2001, CEMEX USA changed its operating name to CEMEX Construction Materials, Inc. There was no change in ownership. On July 14, 2008, CEMEX Construction Materials, Inc. changed its organization name/Permittee name to CEMEX Construction Materials South, LLC.

Historical records indicate that CEMEX Construction Materials South, LLC. has not had any major air quality violation. Past minor enforcement actions worth noting are presented in III.A of the TSD.

This technical support document is a review of the permit renewal application dated June 15, 2015. The facility has been identified in the application as operating under the name CEMEX – Pima Mine Road Plant.

C. Attainment Classification

This facility is located in an area which is in attainment for all pollutants.

II. Source Description

CEMEX Construction Materials L.P. - Pima Mine Road Plant, herein known as CEMEX - Pima Plant consists of an aggregate production facility (crushing and screening plant), a wash plant and a ready mix concrete batch plant.

The Standard Industrial Classification (SIC) code for crushing and screening plant is 1442 while the concrete batch plant has a SIC Code of 3273.

A. Process Description

Aggregate material is obtained from the on-site quarry, loaded onto a feeder to a crusher and then onto the wash plant. The washed material is either stockpiled to be sold as coarse aggregate or it is used by the on-site concrete batch plant. Concrete is basically composed of aggregate material, cement, water and cement supplement. The cement and cement supplement are transferred pneumatically to elevated storage silos. These components are then transferred to weigh hoppers, which combine the proper amounts of each material, and then the materials are fed into mixer trucks.

B. Air Pollution Control Equipment

Particulate control is achieved throughout the facility with wet suppression techniques and baghouses on the cement silo, the fly ash silo, the lime silo and the batcher in the concrete batch plant. The baghouses on each of the silos and the concrete batch plant are reported to be 99.9% efficient.

III. Regulatory History

The CEMEX – Pima Mine Road Plant was first permitted in 1997 under the Arizona Department of Environmental Quality (ADEQ) general crushing and screening permit. This general permit expired in August 24, 2005 upon which the source was permitted under a Pima County Department of Environmental Quality (PDEQ) individual air quality permit. There have been regular inspections of the source to date and past minor enforcement actions worth noting are:

November 2000:

- Notice of Violation (NOV) for failing to 1) submit a timely application for renewal of the Air Quality Permit, 2) failing to obtain a portable source permit from Pima County, 3) failing to submit the semiannual reports as required by the permit and 4) failure to submit the annual compliance certification as required by the permit.

[These enforcement actions were adequately resolved and subsequently closed in February 2001.]

January 2004:

- Notice of Violation (NOV) for failing to 1) submit a written notification that lists the existing equipment on site by name and current posting ID Number, 2) failing to submit a written notification (permit revision) that advises of facility changes to operations at the plant, 4) failure to adequately document periodic inspections conducted when checking for abnormal emissions.

[This enforcement action was adequately resolved and subsequently closed in August 2006.]

December 2006:

- Notice of Violation (NOV) for failing to operate the plant without first obtaining a permit from PDEQ.

[This enforcement action was adequately closed resolved and subsequently closed in February 2007.]

April 2011

- Opportunity to Correct (OC) for failing to take reasonable precautions to prevent excessive amounts of particulate matter from becoming windborne.

[This enforcement action was adequately closed resolved and subsequently closed in June 2011.]

June 2014

- Opportunity to Correct (OC) for:
 1. failing to adequately record visible emission checks of the Concrete Batch Plant at least once per shift.
 2. failing to adequately record baghouse inspections conducted each time maintenance was performed.
 3. failing to adequately record daily visible emission checks for the crushing and screening plant.
 4. failing to adequately record daily visible emission checks for the wash plant.
 5. failing to adequately record daily operating hours and rolling (24) hour total operating hours for any 12-consecutive month period.
 6. failing to conduct and record facility-wide abnormal emission checks once per shift[This enforcement action was adequately resolved and subsequently closed in September 2014.]

To Date (March 2016), the facility is currently in compliance with their permit conditions.

A. Testing & Inspections

On June 16, 1997, the Permittee used the EPA approved reference test method to conduct an opacity test on the NSPS applicable equipment. At the time of the test, the applicable NSPS equipment consisted of a cone crusher and two conveyors. The results of the performance test met compliance with the conditions of the permit. There are no testing standards for the wash plant or the concrete batch plant.

B. Excess Emissions

The facility has submitted no reports of excess emissions.

IV. Emissions Estimates

Primary Pollutant:

PM₁₀ Particulate Matter (with an aerodynamic diameter of 10 microns or less)

A. Emission Factors

PM₁₀ emissions were determined using emissions factors from three data sources, specifically the Arizona Department of Environmental Quality (ADEQ) general permit for a crushing/screening plant, CEMEX's estimated Potential to Emit Calculations and EPA AP-42, Volume I, Fifth Edition Emissions Data.

B. Emissions Summary

Table 1
Summary of Uncontrolled Process Emissions Excluding Air Pollution Control

Pollutant	Crushing and Screening (Tons/Yr)	Wash Plant (Tons/Yr)	RM Concrete Batch Plant (Tons/Yr)	Total Process Uncontrolled Emissions (Tons/Yr)
PM ₁₀	47.79	7.92	132.14	187.85

Tons per year (tpy); Estimates assume 8760 hrs/yr operation.

Table 4
Controlled Emissions (tpy) With Air Pollution Control
(Operating 8760 hrs/yr)

Pollutant	Crushing and Screening (Tons/Yr)	Wash Plant (Tons/Yr)	RM Concrete Batch Plant (Tons/Yr)	Total Actual Emissions (Tons/Yr)
PM ₁₀	6.70	2.05	6.03	14.77

V. Applicable Requirements

Abbreviations: Code of Federal Regulations (CFR)
New Source Performance Standards (NSPS)
Pima County Code (PCC)

40 CFR 60: Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants

(PCC) Title 17, Chapter 17.16:

- 17.16.010 Local rules and standards; Applicability of more than one standard
- 17.16.020 Noncompliance with Applicable Standards
- 17.16.050 Visibility Limiting Standards
- 17.16.060 Fugitive Dust Producing Activities
- 17.16.100 Particulate Materials
- 17.16.110 Storage Piles
- 17.16.130 Applicability
- 17.16.370 Standards of Performance for Gravel or Crushed Stone Processing Plants
- 17.16.380 Standards of Performance for Concrete Batch Plants

VI. Additional Permit Conditions

Cemex has added equipment (equipment ID numbers 30-50741 and 20484) to the crushing and screening plant, installed in 2014. Two of the new pieces of equipment are affected facilities subject to additional monitoring requirements and reporting and recordkeeping requirements. These regulations have been added to the monitoring, reporting and recordkeeping sections of Section II of the permit. Also, the new affected facilities are subject to the 7 percent opacity fugitive emission limits for affected facilities that commence construction, modification, or reconstruction on or after April 22, 2008.

40 CFR 60 Subpart OOO:

- 60.672(b) Standard for Particulate Matter (Table 3)
- 60.674(b) Monitoring of Operations
- 60.676(b) Reporting and Recordkeeping