Air Quality Operating Permit # 3877
Technical Support Document (TSD)

April 2015

I. Facility Description

This individual air quality operating permit is issued to Cemex Construction Materials South, LLC – Apex Plant, for their Nonmetallic Mineral Mining/Gravel or Crushed Stone processing plants and Concrete Batch (Ready Mix) Plant operations located at 11500 N. Calmat Drive, Marana, AZ.

Including the mining of the aggregate materials, the facility consists of the following operational areas:

- Crushing & Screening Plant
- Wash Plant
- VSI Crushing Spread
- Ready Mix Concrete Batch Plant

Aggregate materials are mined at the on-site quarry. The material is then processed through the crushing and screening plant and then travels to the wash plant. A separate VSI crushing spread is also installed at the facility. The aggregate products are classified, crushed, screened and stored on site. They are sold as coarse aggregate, base material, or used by the on-site concrete batch plant.

The facility has the potential to generate particulate matter emissions through baghouse air pollution control (APC) systems, stacks, or vents; from process fugitive emissions generated by crushers, screens, and conveyor belt drop points; and from fugitive sources such as dumping of aggregate, stockpiles, roadways, and open areas. Particulate matter control is achieved with wet suppression techniques and the use of baghouse APC equipment on the lime, cement, and fly-ash silos at the plant.

The facility also operates a 1336 hp non-emergency generator to provide electrical power to the VSI crushing spread that is subject to NESHAP, Subpart 4Z. The generator is a source of $PM_{10,}$ NOx, CO, SO_2, and VOC.

The Potential to Emit of the plant is based on operation 24 hours/day 365 days per year. Cemex has declared the following plants and maximum aggregate capacities in the permit application.

- Crushing & Screening and Wash Plant — Capacity: 475 tons/hr – 4,161,000 tons per year
- Wash Plant — Capacity: 475 tons/hr – 4,161,000 tons per year
- VSI Crushing Spread (Plant) — Capacity: 200 tons/hr – 1,752,000 tons per year
- Ready Mix Concrete Batch Plant — Capacity: 81 tons/hr – 42 cubic yards/hr

II. Summary of Emissions

Detailed calculations of particulate matter from the operations were completed in support of the permit renewal application for the determination of Potential to Emit (PTE). The submitted calculations have been reviewed and verified by PDEQ.

Emitting Process (With claimed controls and operating limitations)	**Emissions (tons/yr)**	
	PM	**PM_{10}**
Crushing and Screening Plant	24.00	9.62
VSI Crushing Plant	9.93	4.21
Wash Plant	11.11	5.06
Ready-Mix Plant	10.34	4.25
Aggregate Stockpiles	0.99	0.47
Total Emissions	**56.37**	**23.61**

The facility operates a 1336 Hp non-emergency CI generator to power one of the crushing plants at the facility. The unit was retrofitted with a NSCR oxidation catalyst to comply with NESHAP, 40 CFR, Subpart ZZZZ requirements for generators >500 HP and has the following PTE full time operation (8760 hours).

Emission Source	Emissions (tons/yr)						
	PM	PM_{10}	$PM_{2.5}$	NO_X	SO_2	CO	VOC
Non-Emergency Generator	4.81	4.81	4.81	87.78	0.04	1.32	4.39

The following is the combined facility wide emissions estimate.

Facility-Wide	Emissions (tons/yr)					
	PM	PM_{10}	NOx	CO	SOx	VOC
Potential Emissions (With claimed controls and operating limitations)	61.18	28.42	87.78	1.32	0.04	4.39

III. Attainment Status of the Area

The facility is a true minor stationary source of PM_{10}, CO, NO_X, SO_X, VOCs and an area source for HAPs, and is located in an area that is classified as attainment.

IV. Summary of Applicable/Non-Applicable Requirements

A list of applicable requirements is presented in Attachment 1 of the air quality operating permit.

New Source Review (NSR) / Prevention of Significant Deterioration (PSD)

The facility is a true minor source thus avoids classification as a major source for purposes of NSR/PSD.

Part 70 Permit Program

The facility is a true minor source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The facility is subject to NSPS, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants. The facility also operates a modified non-emergency generator subject to provisions of 40 CFR Part 60, Subpart IIII or NESHAP, Subpart ZZZZ requirements (below).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is an area source and operates a 1336 Hp diesel non-emergency stationary CI ICE generator that powers a crusher. The CI stationary RICE is subject to 40 CFR Part 63, Subpart ZZZZ and has been retrofitted with an oxidation catalyst.

Pima County Code

The facility is subject to the Pima County Standards of Performance listed in Attachment 1 of the permit.

V. Previous Permit Conditions

The following changes have been accommodated in this permit renewal.

- The permit has been updated to reflect current Apex Plant operations.
- Changes were made to incorporate a new sectional permit format and additional monitoring of pollution controls and fugitive sources and recordkeeping to demonstrate compliance.
- The facility previously operated an existing 459 hp diesel fired electrical generator subject to local conditions. The facility now operates a relocated 1336 HP non-emergency generator subject to NESHAP, Subpart ZZZZ requirements for CI RICE >500 HP at an area source. Provisions were added for the non-emergency generator. This change has resulted in the facility increasing the potential emissions by the following:

Emission Source	Pollutant (tons/yr)							
	PM	PM_{10}	$PM_{2.5}$	NO_X	SO_2	CO	VOC	HAP_S (Total)
Facility Wide Emissions	0.39	0.39	0.39	25.46	0	0	0	0