# TECHNICAL REVIEW AND EVALUATION OF APPLICATION FOR AIR QUALITY PERMIT No. 77717

## I. INTRODUCTION

This Class II air quality operating permit renewal is for the continued operation of CEMEX Construction Materials South, LLC's portable concrete batch plant along with a Crushing & Screening plant. The facility is permitted to operate statewide excluding Maricopa, Pima, and Pinal Counties. The facility is currently located in Sierra Vista in Cochise County. This Permit #77717 renews and supersedes Permit #61196.

### A. Company Information

| | |
|---|---|
| Facility Name: | CEMEX Construction Materials South, LLC |
| Mailing Address: | 5555 E. Van Buren St., Ste. 155, Phoenix, AZ 85008 |
| Current Location: | 5231 E Buffalo Soldier Trail, Sierra Vista, Cochise County, AZ 85365 |

### B. Attainment Classification

This portable facility is permitted to be operated statewide except in Maricopa, Pima and Pinal Counties. The current location of the facility is in an area classified as attainment or unclassified for all criteria pollutants.

## II. PROCESS DESCRIPTION

### A. Concrete Batch Plant

Concrete is composed essentially of water, cement, sand (fine aggregate), and coarse aggregate. Coarse aggregate may consist of gravel or crushed stone. Concrete batching plants store, convey, measure, and discharge these constituents into trucks for transport to a job site.

The aggregate material is delivered by front-end loader or conveyor to the concrete batch plant. The cement is transferred to elevated storage silos pneumatically. The sand and coarse aggregate are transferred to elevated bins by front-end loader and belt conveyor. From these elevated bins, the constituents are fed by gravity or conveyor to weigh hoppers, which combine the proper amount of each material. Sand, aggregate, cement, and water are all gravity fed from the weigh hopper into mixer trucks. The concrete is mixed on the way to the site where the concrete is to be poured.

Particulate matter ($PM_{10}$), consisting primarily of cement dust but including some aggregate and sand dust emissions, is the primary pollutant of concern from the cement plant. Point sources include two dust collectors, transfer of sand and aggregate, truck loading, a heater and a generator. Fugitive sources include mixer loading, vehicle traffic, and wind erosion from sand and aggregate storage piles. The amount of fugitive emissions generated during the transfer of sand and aggregate depends primarily on the surface moisture content of these materials.

Particulate matter emissions during the transfer of cement to the silo are vented to a fabric filter or "sock" system located in a bin vent or baghouse. PM emissions during the truck load out are controlled with a baghouse. Additional controls used include water sprays, enclosures, hoods, curtains, shrouds, and chutes. The movement of heavy trucks over unpaved or dusty surfaces in and around the plant is controlled by good maintenance, wetting of the road surface with water and/or the use of dust suppressants.

**B.** Crushing & Screening Plant

Raw feed is loader fed into a grizzly/ jaw crusher combination. This reduces the size of exceptionally large aggregate so that it can be further processed. Material is conveyed to a cone crusher which further reduces the size of the material. The crushed material then goes into a vibrating screen that divides the materials by size. Any oversize material is returned to the cone crusher for further grinding and screen size rock bypasses the cone crusher and proceeds to the stacker. The finished product is lime treated and may be further processed in the wet plant.

Dust suppression is handled through the use of both the water truck and spray bars. The water truck routinely targets the haul road and service roads in addition to wetting down any storage piles if needed

## III. COMPLIANCE HISTORY

The facility had 9 inspections (4 field inspections and 5 report reviews) during the current permit term. One inspection no. 236225 resulted in a case (Case No. 156182). This case was about inadequate documentation for maintenance activities and visible emission surveys conducted The facility was issued a Notice of Correction on March 30, 2015. The facility complied with requirements and the NOC was closed on May 5, 2015.

## IV. EMISSIONS

The CBP has a capacity to produce 340 cubic yards concrete per hour. The controlled emissions from this plant along with the collocated C & S plant with a capacity of 400 tons per hour are provided in Table 1 below.

**Table 1: Potential to Emit**

| **Pollutants** | **CBP** | **C&S** | **Water Heater** | **Total Emissions** |
|---|---|---|---|---|
| | Tons/year | Tons/year | Tons/year | Tons/year |
| PM | 37.67 | 23.06 | 0.14 | 60.86 |
| $PM_{10}$ | 11.56 | 9.91 | 0.14 | 21.60 |
| $PM_{2.5}$ | 1.74 | 1.57 | 0.14 | 3.44 |
| NOx | 0.00 | - | 1.38 | 1.38 |
| CO | 0.00 | - | 0.34 | 0.34 |
| $SO_2$ | 0.00 | - | 0.00 | 0.00 |
| VOC | 0.00 | - | 0.01 | 0.01 |

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## V. MINOR NSR REVIEW

This renewal permit does not result in any changes to existing equipment or operating conditions. Thus, this renewal permit does not trigger minor NSR review.

## VI. APPLICABLE REGULATIONS

Table 2 below**Error! Reference source not found.** identifies applicable regulations and verification a s to why that standard applies.

**Table 2**

| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| Concrete Batch Plant | Dust Collectors, Bag house, and Spray bars | A.A.C.R18-2-702.B.3, and-723 | Standards of performance for concrete batch plants under A.A.C.R18-2-723 are applicable. |
| Crushing & Screening Equipment | Water spray bars | 40 CFR 60 Subpart OOO | The crushing and screening plant equipment manufacture date is after April 23, 1983. Therefore, New Source Performance Standards (NSPS) under 40 CFR 60 Subpart OOO are applicable to the crushing and screening plant equipment. . |
| Water Heater | None | A.A.C. R18-2-724<br>40 CFR 63 Subpart JJJJJJ | Standards of performance for fossil-fuel fired industrial and commercial equipment are applicable to water heater.<br><br>The heater is less than 10 MMBtu/hr and, therefore, is not subject to NSPS under Subpart D, Da, Db, or Dc. The water heater is subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) under 40 CFR 63 Subpart JJJJJJ. |
| Fugitive Dust Sources | Water Trucks, Dust Suppressants, and other reasonable precautions such as enclosures, hoods, curtains, shrouds, movable and telescoping chutes | A.A.C. R18-2-Article 6,<br>A.A.C. R18-2-702.B.3 | These standards are applicable to all fugitive dust sources at the facility. |
| Portable Sources | NA | A.A.C.R18-2-315<br>A.A.C.R18-2-324 | Specific requirements such as move notice and rental or leasing equipment are applicable to portable sources. |

| Unit | Control Device | Rule | Discussion |
|---|---|---|---|
| Abrasive Blasting | Wet blasting;<br>Dust collecting equipment;<br>Other approved methods | A.A.C. R-18-2-702<br>A.A.C. R-18-2-726 | These standards are applicable to any abrasive blasting operation. |
| Spray Painting | Enclosures | A.A.C. R18-2-702<br>A.A.C. R-18-2-727 | This standard is applicable to any spray painting operation. |
| Demolition/renovation operations | N/A | A.A.C. R18-2-1101.A.8 | This standard is applicable to any asbestos related demolition or renovation operations. |

## VII. PREVIOUS PERMIT AND CONDITIONS

Previous Permit Conditions

Table 3 below compares the substantive conditions in Permit No. 61196 and states whether the condition was revised or deleted in the Renewal Permit No. 77117.

**Table 3: Previous Permit Conditions**

| Section No. | Determination | | Comments |
|---|---|---|---|
| | Revised | Delete | |
| Att. "A" | X | | General Provisions:<br>This Attachment is revised to represent the most recent ADEQ template language. |
| Section I | X | | Facility wide requirements are revised to represent the most recent template language. |
| Section III | X | | Requirements for the water heater are updated to include the NESHAP requirements under 40 CFR 63 Subpart JJJJJJ. |
| Section IV | X | | Requirement for the crushing and screening plant are revised and updated as per 40 CFR 60 Subpart OOO. The permit conditions are streamlined to include only the applicable requirements. |
| Section VI | X | | Fugitive dust requirements are revised to represent the most recent template language. |
| Section VIII | | X | ADEQ Has no jurisdiction over mobile sources. Hence these requirements are deleted. |

## VIII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

**A.** Facility Wide

1. Along with the annual compliance certification, the Permittee is required to submit reports of all recordkeeping, monitoring and maintenance required by the permit.

2. The Permittee is required to maintain, on-site, records of the manufacturer's specifications or an Operation and Maintenance Plan for all equipment listed in the permit.

3. The Permittee is required to maintain logs of all maintenance activities performed on the baghouse.

**B.** Concrete Batch Plant and Crushing & Screening Plant

1. The Permittee is required to have a Method 9 certified observer conduct monthly opacity monitoring. The Permittee is required to records of opacity surveys and Method 9 observations.

2. The Permittee is required to maintain logs of all maintenance activities performed on the baghouse. For each baghouse equipped with a pressure drop measuring device, the Permittee is required to monitor and record twice per shift the pressure drop across the baghouse.

**C.** Hot Water Heater

The Permittee is required to tune-up the hot water heater biennially. The tune-up must conducted no more than 25 months after the previous tune-up.

**D.** Fugitive Dust Sources

1. The Permittee is required to keep record of the dates and types of dust control measures employed.

2. The Permittee is required to have a Method 9 certified observer conduct monthly opacity monitoring. The Permittee is required to records of opacity surveys and Method 9 observations.

## IX. TESTING REQUIREMENTS

For any of the NSPS affected facilities in the crushing and screening plant, the Permittee is required to conduct initial performance test for opacity in accordance with the requirements in the permit, if the initial performance was not conducted previously.

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## X. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
CO ..... Carbon Monoxide
NESHAP ..... Nation Emission Standards for Hazardous Air Pollutants
$NO_x$ ..... Nitrogen Oxides
NSPS ..... New Source Performance Standards
PM ..... Particulate Matter
$PM_{10}$ ..... Particulate Matter Nominally less than 10 Micrometers
$PM_{2.5}$ ..... Particulate Matter Nominally less than 2.5 Micrometers
PTE ..... Potential-to-Emit
$SO_x$ ..... Sulfur Oxides
TPY ..... Tons per Year
VOC ..... Volatile Organic Compound

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