



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY SIGNIFICANT PERMIT REVISION No. 88305
TO OPERATING PERMIT No. 69589**

I. INTRODUCTION

This Class II Synthetic Minor Significant Permit Revision (SPR) to Operating Permit No. 69589 is for the continued operation of CEMEX Construction Materials South, LLC's Prescott Plant with the addition of three conveyor rock stackers to the wash plant and modifications to the voluntary operating limits for the crushing and screen plant and concrete batch plant. Additionally, corrections to the emissions calculations for the crushing and screening plant have been made, as well as a correction to the New Source Performance Standards (NSPS) applicability for the Wash Plant Stacker. Lastly, the permit has been updated to reflect the reclassification of the facility from a portable source to a stationary source.

A. Company Information

Facility Name: CEMEX – Prescott Plant

Mailing Address: 5555 East Van Buren Street, Suite 155,
Phoenix, AZ 85008

Facility Location: 13531 East Highway 89A
Prescott Valley, Yavapai County, AZ 86314

B. Attainment Classification

The facility is located in an area that is in attainment or unclassified for all criteria pollutants.

II. PROCESS DESCRIPTION

A. Changes in Process Equipment

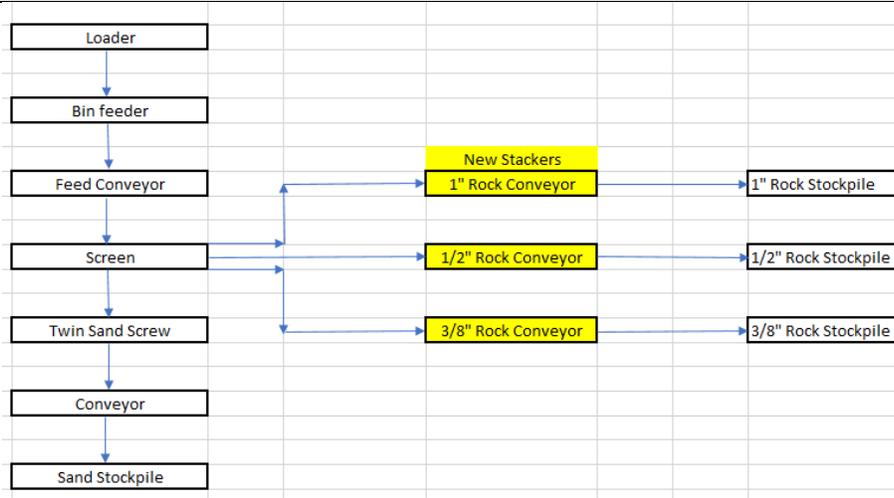
This significant permit revision includes the addition of three conveyor rock stackers to the wash plant. These stackers consist of the Conveyor 3/8" Rock Stacker, Conveyor 1" Rock Stacker, and Conveyor 1/2" Rock Stacker. No other changes in equipment have been made.

B. Changes in Control Devices

There are no changes to control devices associated with this significant permit revision.

C. Changes to Process Flow Diagram

Below is the modified process flow diagram for the wash plant with the incorporation of the three additional conveyor rock stackers associated with this significant permit revision, which are highlighted in yellow.



III. LEARNING SITE EVALUATION

In accordance with ADEQ’s Environmental Permits and Approvals near Learning Sites Policy, the Department is required to conduct an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

While this permit revision will result in increases in controlled emissions due to changes in the throughput limits, the increases are far below the permitting exemption thresholds as defined in A.A.C. R18-2-101.101. Therefore, a learning site evaluation was not applicable to this permit action.

IV. COMPLIANCE HISTORY

A. Compliance Status

At this point in the permit term, the Permittee has been required to submit annual compliance certification reports for three years. The Permittee has met this requirement each year, and no deficiencies were found during ADEQ’s reviews of these reports. So far during this permit term no permit deviation or excess emissions reports have been submitted, no performance tests have been conducted, and no compliance schedules have been put in place for this facility.

The facility underwent a full inspection on July 24, 2018, which led to the issuance of a Notice of Opportunity to Correct Deficiencies (NOC) (Case Number 177075, discussed below in IV.B). The facility also underwent a full inspection on May 12, 2020 and a partial inspection in October 21, 2020, neither of which led to a formal enforcement action.

B. Case Number 177075

During the full inspection on July 24, 2018, visible emissions were observed from the jaw crusher at the crushing and screening plant. The Permittee stated that the emissions were originating from the conveyor belt under the jaw crusher, and that the height on the spray

bar used to control visible emissions from this source needed to be adjusted. The Permittee also stated that burlap curtains needed to be installed to further control emissions. An NOC was issued in the field with the requirement that the Permittee provide photographic documentation that the water spray bar height had been adjusted and burlap curtains had been installed. ADEQ received responses from the Permittee on July 25 and August 2, 2018, and the NOC was closed on August 9, 2018.

V. CHANGE IN EMISSIONS

Changes in emissions associated with this revision are from the crushing and screening plant and concrete batch plant. There are no new emissions associated with the addition of the three conveyor stackers to the wash plant as it is a wet process. There are also no changes in emissions from the engine, boiler, or fugitive sources.

A. Corrections to Crushing and Screening Plant Calculations

Pollutants associated with emissions from the crushing and screening plant are particulate matter (PM), particulate matter with less than 10 μm nominal aerodynamic diameter (PM_{10}), and particulate matter with less than 2.5 μm nominal aerodynamic diameter ($\text{PM}_{2.5}$). Previous calculations for Permit No. 69589 for the crushing and screening plant were based on the hourly capacity of each individual piece of equipment and did not account for the voluntary daily throughput limit on the plant that is in the permit. The calculations have been corrected with this revision to incorporate the permitted daily throughput limit on the crushing and screening plant. For pieces of equipment where the daily throughput limit exceeded the equipment's daily capacity, the daily capacity was used as the maximum throughput limit. These corrections led to decreases in potential uncontrolled and controlled PM, PM_{10} , and $\text{PM}_{2.5}$ emissions. Changes in the facility's potential-to-emit (PTE) due to these corrections are presented in Table 2.

Table 1: Corrections to Permit No. 69589 PTE (tpy)

Pollutant	Emissions from 69589		Change in Emissions		Corrected Emissions from 69589	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
PM	731.48	26.62	-526.41	-10.56	205.07	16.06
PM_{10}	312.94	11.75	-226.06	-4.29	86.88	7.46
$\text{PM}_{2.5}$	48.27	3.12	-33.93	-0.75	14.34	2.37
CO	5.21	5.21	0.00	0.00	5.21	5.21
NO_x	21.87	21.87	0.00	0.00	21.87	21.87
SO_2	0.01	0.01	0.00	0.00	0.01	0.01
VOC	1.74	1.74	0.00	0.00	1.74	1.74

B. Changes in Voluntary Daily Throughput Limits

With this revision, the voluntary throughput limit was increased from 5,500 tons per day to 8,700 tons per day for the crushing and screening plant, and decreased from 5,760 cubic yards per day to 3,000 cubic yards per day for the concrete batch plant. Pollutants

associated with emissions from the crushing and screening plant and concrete batch plant are particulate matter (PM), particulate matter with less than 10 µm nominal aerodynamic diameter (PM₁₀), and particulate matter with less than 2.5 µm nominal aerodynamic diameter (PM_{2.5}). Daily potential emissions were calculated by multiplying the daily throughput limit (or maximum daily capacity, as described earlier) in tons per day by the emissions factor in pounds of pollutant per ton. Annual emissions were then calculated by multiplying the daily potential emissions by 365 days per year and converting pounds to tons. Both potential uncontrolled and controlled emissions were calculated using the uncontrolled and controlled emissions factors associated with each piece of equipment. Emissions factors were derived from the United States Environmental Protection Agency's AP-42: Fifth Edition Compilation of Emissions Factors, Volume 1: Stationary Point and Area Sources (AP-42). There were no changes in estimated emissions factors associated with this permit revision.

The changes in the throughput limits caused increases in the potential controlled PM, PM₁₀, and PM_{2.5} emissions and decreases in the potential uncontrolled PM, PM₁₀, and PM_{2.5} emissions over the corrected emissions from 69589. Increases in controlled emissions were below the permitting exemption threshold and therefore do not trigger minor new source review (minor NSR). The changes in the facility's potential-to-emit (PTE) for controlled emissions are shown in Table 3. Potential controlled emissions remain below major thresholds, therefore the facility is still classified as a Class II Synthetic Minor. Changes in the facility's potential uncontrolled emissions are shown in Table 4. Table 5 shows the changes in emissions that can be attributed to each of the processes affected by the change in throughput limits. Decreases in emissions are shown for the concrete batch plant due to the decrease in its throughput limit, and increases in emissions are shown for the crushing and screening plant due to the increase in its throughput limit.

Table 3: Changes to Permit No. 69589 Corrected PTE (tpy)

Pollutant	Corrected Controlled Emissions from 69589	Change in Controlled Emissions	Updated Controlled Emissions	Permitting Exemption Threshold	Minor NSR Triggered?
PM	16.06	3.00	19.05	N/A	N/A
PM ₁₀	7.46	1.27	8.73	7.5	No
PM _{2.5}	2.37	0.18	2.54	5	No
CO	5.21	0.00	5.21	50	No
NO _x	21.87	0.00	21.87	20	No
SO ₂	0.01	0.00	0.01	20	No
VOC	1.74	0.00	1.74	20	No

Table 4: Changes to Permit No. 69589 Corrected Uncontrolled Emissions (tpy)

Pollutant	Corrected Uncontrolled Emissions from 69589	Change in Uncontrolled Emissions	Updated Uncontrolled Emissions
PM	205.07	-24.78	180.30
PM ₁₀	86.88	-12.53	74.36
PM _{2.5}	14.34	-1.87	12.47
CO	5.21	0.00	5.21
NO _x	21.87	0.00	21.87
SO ₂	0.01	0.00	0.01
VOC	1.74	0.00	1.74

Table 5. Change in Emissions by Process

Pollutant	Decreases in Emissions due to Decreased Throughput Rate at Concrete Batch Plant		Increases in Emissions due to Increased Throughput Rate at Crushing and Screening Plant		Net Change in Emissions	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
PM	-55.99	-1.38	31.21	4.38	-24.78	3.00
PM ₁₀	-24.78	-0.55	12.26	1.82	-12.53	1.27
PM _{2.5}	-3.72	-0.08	1.84	0.26	-1.87	0.18

VI. VOLUNTARILY ACCEPTED EMISSION LIMITATIONS AND STANDARDS

The permit contains voluntary daily throughput limitations in order for the facility's controlled PTE to remain below major source thresholds. With this revision the voluntary throughput limits were increased from 5,500 tons per day to 8,700 tons per day for the crushing and screening plant, and decreased from 5,760 cubic yards per day to 3,000 cubic yards per day for the concrete batch plant. With these changes, the potential controlled emissions remain below major thresholds, therefore the facility is still classified as a Class II Synthetic Minor

VII. APPLICABLE REGULATIONS

There are no changes to applicable regulations associated with the modifications in voluntary daily throughput limitations or corrections to the emissions calculations for the crushing and screening plant. The three additional rock conveyor stackers (Conveyor 3/8" Rock Stacker, Conveyor 1" Rock Stacker, and Conveyor 1/2" Rock Stacker) are not subject to any NSPS requirements in 40 CFR 60 Subpart OOO for Nonmetallic Mineral Processing Plants as they meet the definition of wet

materials processing operations, to which Subpart 000 requirements do not apply. Similarly, the Wash Plant Stacker, which previously was written in the permit as being subject to Subpart 000, does not have any applicable NSPS requirements as it also meets the definition of wet materials processing operations. Instead, these four wash plant conveyor rock stackers are subject to requirements in A.A.C. R18-2-722 for Existing Gravel or Crushed Stone Processing Plants, found in Section III or Attachment “B” of the permit.

Lastly, the definition of portable source found in A.A.C. R18-2-101.109 is “any stationary source that is capable of being operated at more than one location.” The Permittee has demonstrated that the facility is not capable of being operated in more than one location. Therefore, the requirements for portable sources found in A.A.C. R18-2-324 do not apply to this facility and have been removed from the permit. The facility also meets the definition of a “fixed plant” in 40 CFR 60.671, but this did not necessitate any changes to the permit.

Table 6: Changes in Applicable Regulations

Unit & year	Control Device	Rule	Discussion
Wash Plant Conveyor Rock Stackers – Manufacture Date Unknown	Wet Suppression System	A.A.C. R18-2-722	Standards of Performance for Existing Gravel or Crushed Stone Processing Plants. These requirements apply to stackers that are not subject to NSPS requirements.

VIII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

A. Previous Permit Revisions

No other permit revisions have been made to Permit No. 69589 prior to this revision.

B. Changes to Current Revision

Table 7 addresses the changes made to the sections and conditions from Permit No. 69589:

Table 7: Changes to Previous Permit Conditions

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. “B” Section I.B.4 and 5		X		Facility Wide Requirements – Operational Limitations: Revised to reflect the new voluntary daily throughput limitations for the crushing and screening plant and concrete batch plant.
Att “B” Section X			X	Conditions Specific to Portable Sources: This section has been removed to reflect the reclassification of the facility from a portable source to a stationary source.
Att. “C”		X		Equipment List: Revised to include the three additional wash plant conveyor rock stackers. NSPS/NESHAP applicability for Wash Plant Stacker corrected to “N/A”

IX. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

There are no changes to monitoring, recordkeeping and reporting requirements in the permit associated with this permit revision.

X. AMBIENT AIR IMPACT ANALYSIS

The changes associated with this permit revision did not trigger any updates to the existing ambient air impact analysis.

XI. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
AQD	Air Quality Division
A.R.S.	Arizona Revised Statutes
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EPA	Environmental Protection Agency
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM10	Particulate Matter less than 10 µm nominal aerodynamic diameter
PM2.5	Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PTE	Potential to Emit
SO ₂	Sulfur Dioxide
tpy	Tons per Year
VOC	Volatile Organic Compound