SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study for:

Proposed Amended Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

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CHAPTER 1 - PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

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INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3].

The area of jurisdiction under the SCAQMD exceeds state and federal ambient air quality standards for PM10 (defined as particulate matter with an aerodynamic diameter of 10 microns or less). These microscopically fine particles can originate from a variety of area sources, both natural and man-made, and from a variety of stationary source processes, which include direct emissions (referred to as primary PM10) and atmospheric chemical reactions that convert gases to particles (referred to as secondary PM10). Approximately one-third of the ambient PM10 concentrations are a result of soil dust entrainment, commonly referred to as fugitive dust[4].

Rule 1156 implemented a portion of the 2003 AQMP control measure BCM-08 – Further Emission Reductions of Particulate Emissions from Cement Manufacturing Facilities. Cement manufacturing facilities are defined as any facility engaged in producing Portland cement or associated products. Two facilities in the Basin are regulated by the proposed amended Rule 1156, California Portland Cement Co. (CPCC) and TXI Riverside Cement (TXI).

Elevated ambient concentrations of hexavalent chromium (hex chrome) in the Rubidoux area of Riverside were discovered through the sampling efforts of the Multiple Air Toxic Study III (MATES III). Extensive additional sampling and modeling indicate that these emissions can be traced back to TXI located in the City of Riverside. Air monitoring around CPCC and TXI facilities will continue. SCAQMD staff proposes amendments to Rule 1156 to further reduce particulates, including hex chrome.

The proposed rule amendment would require the total enclosure of clinker material storage instead of allowing a menu of compliance options, as is the case for the current rule. In addition, the proposed amendments would amend an exemption relative to evaluating material size in open storage piles and exclude clinker material from such an exemption.

On June 24, 2008, SCAQMD and TXI entered into a settlement agreement in response to an enforcement action against TXI. Under the terms of the settlement agreement, TXI will pay one million dollars and implement measures to reduce dust emissions from clinker storage piles. TXI will remove all open clinker storage piles by November 30, 2008. Since clinker

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).
[2] Health & Safety Code, §40460 (a).
[3] Health & Safety Code, §40440 (a).
[4] SCAQMD, Board Package for Proposed Rule 403, Agenda No. 38, April 2, 2004.

storage will end because of the settlement agreement before the proposed amended rule would be presented to the Governing Board for consideration, it was assumed that TXI would not be affected by the provisions of PAR 1156. As a result, implementing PAR 1156 would not generate any secondary environmental impacts at the TXI facility. All of the analysis focuses on adverse impacts from CPCC.

For the analysis of this proposed project (see Chapter 2), it was estimated that CPCC would need to build two one-acre full enclosures for clinker storage.

Throughout this document, references to the proposed project or PAR 1156 are used interchangeably.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1156 is a "project" as defined by the California Environmental Quality Act (CEQA). CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the SCAQMD's Governing Board, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures when an impact is significant.

California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of Resources Agency on March 1, 1989 and is codified as SCAQMD Rule 110. Pursuant to Rule 110 (the rule which implements the SCAQMD's certified regulatory program), SCAQMD prepared Final Environmental Assessment (EA) to evaluate potential adverse impacts from PAR 1156.

The Final EA for Proposed Rule (PR) 1156 (SCAQMD No. 050307JK) dated October 13, 2005, was certified by the Governing Board on November 4, 2005 at their Public Hearing Board Meeting. The 2005 Final EA identified construction emissions as significant for air quality. Because the full enclosure of storage piles was one of several options for reducing fugitive dust emissions from storage piles in PR 1156, the adverse impacts of constructing a full one acre concrete dome enclosure at each facility was evaluated in the 2005 Draft EA for PR 1156. During the public comment period it was determined that neither facility would build an enclosure, but the analysis for the enclosures was retained in the 2005 Final EA for PR 1156 because it was more conservative. Alternative C – Full Enclosures evaluated the enclosure of all storage piles at both facilities, which was estimated to be 15 enclosures.

PAR 1156 would require that clinker storage piles be fully enclosed. Under the proposed project, two full enclosures would be required to be constructed at CPCC. The adverse impacts from constructing the one full enclosure at two facilities or two full enclosures at one facility would be the same. Since the only significant adverse impacts from the proposed project are from enclosing storage piles and the number of enclosures expected

from the proposed project are the same as the worst-case evaluated in the 2005 Final EA for PR 1156, the adverse impacts from the proposed project would be the same as those disclosed in the 2005 Final EA for PR 1156.

Since the general environmental setting, the significant adverse impacts and alternatives, and the mitigation measures related to each significant effect of the proposed project and the 2005 Final EA are similar, SCAQMD staff will rely upon the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK). This Initial Study was prepared pursuant to CEQA Guidelines §15153(a)(1). The 2005 Final EA for PR 1156 will be circulated for a 45-day public comment period as required by CEQA Guidelines §15153(b) and responses to comments will be prepared pursuant to CEQA Guidelines §15153(c).

While the proposed project was selected by the Governing Board, as stated in the 2005 Final EA for PR 1156, the Governing Board could have chosen to adopt any of the alternatives in whole or in part in place of the proposed project, based on other considerations in addition to environmental concerns such as compliance costs, effects on future employment (jobs lost, for example), etc. Therefore, the Governing Board could have chosen Alternative C or an option similar to the proposed project that would enclose only clinker storage piles. The Governing Board still has the opportunity to select all or part of any of the alternatives in the 2005 Final EA for PR 1156.

The CEQA Guidelines §15153 allow the use of an EIR prepared in connection with an earlier project to apply to a latter project, if the circumstances of the projects are essentially the same. When a Lead Agency proposes to use an EIR from an earlier project as the EIR for a separate latter project, the Lead agency is required to review the proposed project with an Initial Study, using incorporation by reference, if necessary to determine whether the EIR would adequately describe the environmental setting of the project, significant environmental impacts of the project, and alternatives and mitigation measures related to each subsequent effect.

The SCAQMD, as Lead Agency for the proposed project, has prepared this Initial Study (which includes an Environmental Checklist) pursuant to CEQA Guidelines §15153(a)(1). The Environmental Checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. Based on this Initial Study, SCAQMD staff has determined that it is appropriate to use the previous 2005 Final EA for PR 1156 as the Draft EA for this proposed project.

Written comments on the scope of the environmental analysis and possible project alternatives in the 2005 Final EA for PR 1156 received by the SCAQMD during the 45-day public review and comment period will be considered (if received by the SCAQMD during the 45-day public review period) when the 2005 Final EA for PR 1156 is recirculated.

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin

(MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

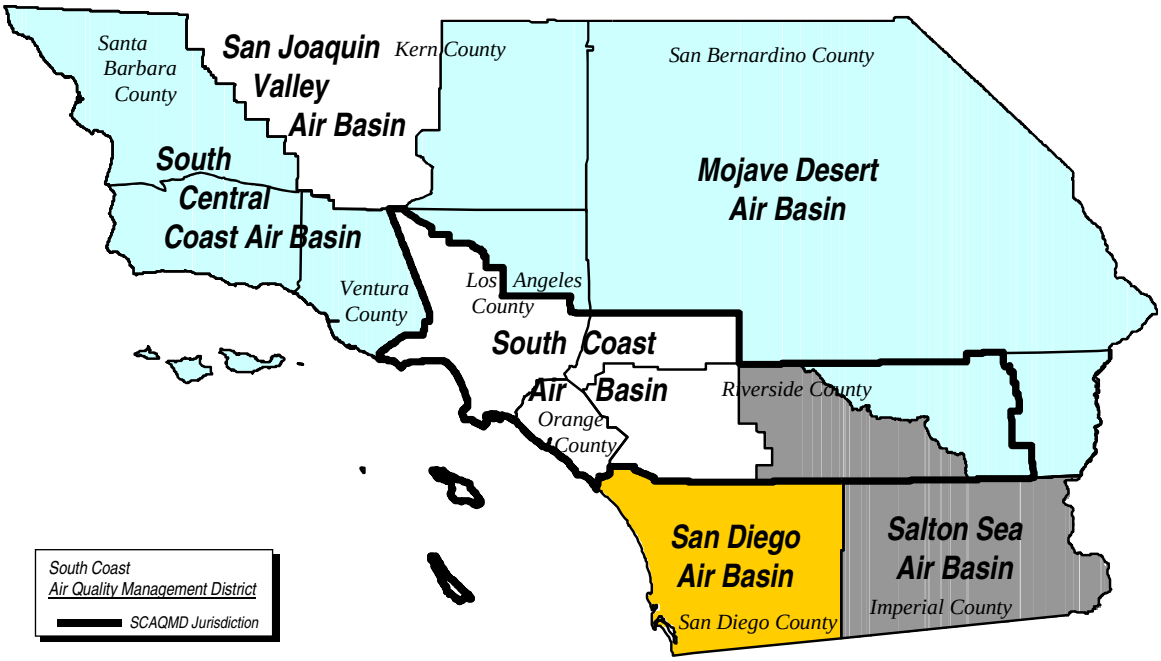

Figure 1-1
South Coast Air Quality Management District

PROJECT BACKGROUND AND OBJECTIVES

Rule 1156 implemented a portion of the 2003 AQMP control measure BCM-08 – Further Emission Reductions of Particulate Emissions from Cement Manufacturing Facilities. Cement manufacturing facilities are defined as any facility engaged in producing Portland cement or associated products. Two facilities in the Basin are regulated by the PAR 1156, CPCC and TXI.

Elevated ambient concentrations of hex chrome in Rubidoux were discovered through the sampling efforts of MATES III. Extensive additional sampling and modeling indicate that these emissions can be traced back to TXI located in Riverside. SCAQMD staff proposes amendments to Rule 1156 to further reduce particulates, including hex chrome. Air monitoring around CPCC and TXI facilities will continue.

Adoption of PAR 1156 would ensure further reduction of particulate matter, which includes chromium (also a particulate), from cement manufacturing facilities by ensuring that fugitive dust emissions from clinker material storage are minimized.

PROJECT DESCRIPTION

PAR 1156 would reduce fugitive PM and associated hex chrome emissions by requiring the enclosure of clinker. The exemption for storage piles based on particle size would be modified to exclude clinker from the exemption. Specific collection criteria would be added to the storage pile sample requirements in the storage piles exemption.

The following subsections briefly summarize the main components of PAR 1156. For the complete text of the proposed amended rule, please refer to Appendix B.

Proposed Amended Rule 1156

Purpose
No changes to the purpose of the existing rule are proposed.

Applicability
No changes to the applicability of the existing rule are proposed.

Definitions
No changes to the definitions in the existing rule are proposed.

Requirements
Currently in Rule 1156, operators of a cement manufacturing facility are required to enclose their open storages of clinker if the storage piles exceed four acres or 80,000 tons per month throughput.

Under the proposal, operators of a cement manufacturing facility would be required to enclose clinker storage piles, regardless of size, by March 1, 2009 in order to further reduce particulate matter emissions. The enclosure must also meet the requirements for an air pollution control device.

Monitoring and Source Testing
No changes to the applicability of the existing rule are proposed.

Recordkeeping Requirements
No changes to the applicability of the existing rule are proposed.

Source Test Methods and Calculation
No changes to the applicability of the existing rule are proposed.

Exemptions
Currently, operators of a manufacturing facility can be exempt from storage pile requirements of enclosure or three-sided barrier, or from using the AQMD Rule 403 test methods for the demonstration of a pile's surface stabilization if the materials contained in 90 percent of the pile's volume are larger than half an inch.

Under the proposal, this would change to a mass basis and would exclude clinker material. Therefore, operators who have open piles containing materials other than clinker would be exempt from the above mentioned requirements if the materials contained in 90 percentage of the pile's mass are larger than ½ inch. The criterion must be achieved through measurement on any composite sample of at least 10 pounds taken at a minimum depth of 12 inches below the pile surface, and at various locations of the pile, but not within 12 inches from the base, to ensure adequate sampling.

Alternative Control Options
No changes to the applicability of the existing rule are proposed.

CONTROL OPTIONS

Emissions from open storage piles or material handling, including loading/unloading activities and open conveying systems are affected by many factors such as material type, size and characteristics, moisture content, process throughput, operating practices, topographical and climatic factors.

Wet suppression, either by the application of water, chemicals and/or foam watering is currently used at the facilities. However, its control effectiveness (i.e. as long as surface moisture is high enough to cause the fines to adhere to the larger rock particles) depends upon variables that are changeable such as local climate conditions and source properties, variables that are not easy to verify such as frequency of applying wet suppression or operator practices. Therefore, wet suppression is useful mainly to reduce emissions that cannot be contained such as emissions from vehicle traffic and re-entrainment. Even with these fugitive emissions, wet suppression typically has only a temporary effect, and its control efficiency is very subjective.

Enclosing open piles and conveying systems blocks the wind and provides permanent control and containment. Its control efficiency is guaranteed, easy to verify, and does not depend on factors such as climate conditions and operator practices. Coupling the enclosure with wet suppression by spraying at the opening of the enclosure eliminates nearly 95 percent of the emissions.

Enclosed conveying systems and domes for raw materials and products are installed and maintained at many cement manufacturing facilities in California such as:

- California Portland Cement in Mojave, Kern County, has a limestone enclosed storage and reclaim system;
- Lehigh Southwest Cement in Tehachapi, Kern County, has a covered quarry conveying system vented to baghouses and an enclosed storage area for five-acres of raw materials;
- National Cement in Lebec, Kern County, has 2.5 miles of covered conveyors and enclosed storage areas for raw materials and products;
- Southdown California Cement (CEMEX) in Victorville, San Bernardino County, has a primary crusher enclosed and vented to baghouse, and a permit to construct to have all outside conveyors covered;
- TXI Riverside Cement at Oro Grande, San Bernardino County, has an Mojave Desert Air Pollution Control District (MDAQMD) Permit to Construct to have all conveyors transporting materials from quarry to crushers covered; and
- In addition, Rule 1158 adopted in 1999, has required enclosed storage and enclosed conveying system for facilities that handle and use coke, coal and sulfur in the Basin.

The 1999 staff report for Rule 1158 cited several dome vendors such as Dome Systems, Plas-Steel, and Klimke & Wright LTD. Staff has contacted four additional representative vendors who manufacture and supply concrete, steel or aluminum domes for cement manufacturing facilities. Their applications are summarized in Table 1-1. Additional detail regarding dome applications can be found at the vendor's websites.

Many vendors currently provide enclosed conveyors to the cement industry. The staff report for Rule 1158 cited several vendors who supply total enclosed conveyors[5]. Staff has contacted three additional vendors for quotes including Fiberdome; Mertec Engineering which represents Cambelt International Corporation, Kollman, SGCO; and Applied Conveyor Technology which represents Martin Engineering.

ALTERNATIVES

The 2005 Final EA for PR 1156 evaluated four alternatives, Alternative A (No Project), Alternative B (Partial Enclosures), Alternative C (Full Enclosures), and Alternative D (Reduction from Baseline).

[5] These vendors supplied 1,600-foot covered conveying system for Metropolitan Stevedore, 300-foot covered conveying system for Aimcor, 390-foot covered conveying system for ARCO, 755-foot covered conveying system for Aimcor Main Barn, 1230-foot covered conveying system for ARCO Great Lake, 830-foot covered conveying system for Oxbow, and 875-foot covered conveying system for Chevron.

Table 1-1
Dome Application for Open Storage Piles

Vendor	Dome Application
Dometec	• Clinker concrete dome for Ash Grove Cement in Arkansas; • Clinker concrete dome for Essroc Materials in Michigan; • Gypsum, fly ash, and cement storage domes.
Temcor	• Limestone aluminum storage dome for California Portland Cement in Mojave California; • Limestone and cement dome for Lehigh Portland Cement and St. Lawrence Cement in Maryland; • Sand dome for Junction City in Georgia; and • Other coal and cement storage domes
Consevatek	• Cement and limestone aluminum domes for cement plants in Texas and Kansas.
Geometrica	• Clinker dome in Canada; • Gravel and copper ore domes in Mexico and Chile; • Coal and limestone aluminum and steel domes in Taiwan, Thailand, Chile and Mexico.

The four feasible alternatives to the rule presented in the 2005 Final EA are summarized in Table 1-2: Alternative A (No Project), Alternative B (Partial Enclosures), Alternative C (Full Enclosures), and Alternative D (Reduction from Baseline). A comparison of the potential air quality and hydrology/water quality impacts from each of the project alternatives with PR 1156 is given in Table 1-2. No other significant adverse impacts were identified for PR 1156 or any of the project alternatives. The proposed project and Alternatives B, C and D are significant for NOx from construction activities. No significant secondary construction emissions are anticipated from Alternative A because it is assumed PR 1156 would not be adopted. No significant operational adverse air quality impacts would be expected from operations in either the proposed project or alternatives. No other environmental topics were determined to be significant. The proposed project is considered to provide the best balance between emission reductions, the adverse air quality impacts due to construction and operation activities. Therefore, the proposed project was preferred over the project alternatives and adopted by the Governing Board.

Summaries of the Project Alternatives Evaluated in the 2005 Final EA for PR 1156

Alternative A or 'no project' means that PR 1156 would not be adopted and instead the operators would maintain their current operations without change and will continue to be subject to the following requirements:

- SCAQMD Rule 401 - Visible Emissions;
- SCAQMD Rule 404 - Particulate Matter - Concentration;
- SCAQMD Rule 405 - Particulate Matter - Weight;
- SCAQMD Rule 1112.1 - Emissions of Particulate Matter from Cement Kilns
- SCAQMD Regulation XIII – New Source Review;
- SCAQMD Regulation XXX – Title V Permits;

- Federal New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart F, *Standards of Performance for Portland Cement Plants*;
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart LLL, NESHAP from the Portland Cement Manufacturing Industry

Alternative A, the 'no project' alternative, does not achieve the goals of the proposed project because it does not implement the portion of Control Measure BMC-08 to further reduce PM emissions from cement manufacturing operations. While no significant adverse secondary environmental impacts would result from the 'no project' alternative, it is not the environmentally superior alternative in accordance with CEQA Guidelines §15126.6(e)(2) because PM would continue to be emitted at current levels, thus, not improving air quality in the district.

Compared to PR 1156, Alternative B, the partial enclosure alternative, has a higher baghouse performance standard (0.03 gram PM per dry standard cubic meter), does not require additional control for crushers, and does not require full enclosure of open storage piles. Like the proposed project, Alternative B would produce significant adverse NOx emissions (108 pounds of NOx per day) during construction of three-sided enclosures. The effective dates for Alternative B requirements would be one to two years longer than those of the proposed project. Alternative B does not include Continuous Emission Monitoring System (CEMS), continuous opacity monitoring systems (COMS), baghouse leak detection systems (BLDS) or operation and maintenance (O&M) procedures. The proposed project is superior to Alternative B, since it would generate greater feasible PM emissions reductions on a shorter schedule.

Alternative C, the full enclosure alterative, would require a 0.005 gram PM per dry standard cubic meter baghouse performance standard, and that operators fully enclose conveyers, crushers and open storage piles. Alternative C would allow one additional year to comply with open storage pile control to allow for the construction required to enclose all open storage piles. Secondary NOx emissions of 367 pounds per day from construction would exceed the SCAQMD's NOx construction significance threshold of 100 pounds per day.

Alternative C would achieve the greatest emission reductions. Since the open storage piles would be fully enclosed operators would not be required to water open storage piles. Alternative C also requires that only chemical dust suppressants be used for dust control. The proposed project and Alternatives B and D may require additional watering which would generate additional criteria and toxic emissions from additional combustion required to remove moisture added from watering for dust suppression. Therefore, Alternative C would be the environmentally superior and least toxic alternative. However, it is not clear if existing facilities would be able to meet the 0.005 gram per dry standard cubic meter baghouse performance standard for all baghouses. Facility operators have stated that enclosing all storage piles would prevent them from purchasing materials in bulk when available. Therefore, requiring all storage piles to be enclosed may adversely impact business decisions and operating activities at affected facilities.

Alternative D, reduction from baseline alternative, is the same as the proposed project except that operators would be allowed to reduce the overall facility baghouse baseline PM emissions by 50 percent instead of complying with individual baghouse performance standards. Facility operators requested this option in case their kiln or clinker baghouse could not meet the performance standards. Under this alternative, further reductions could be made at other baghouses to compensate for baghouses unable to meet required performance standards. This alternative would allow a similar effective date to the proposed project (three to five years) to allow facility operators to optimize baghouses to obtain the 50 percent reduction from baseline. Secondary NOx emissions from construction would be equivalent to the proposed project, which is expected to exceed the NOx significance threshold. At the request of facility operators, this alternative does not include COMS/BLDS or documented O&M procedures. Since CEMS, COMS, BLDS and documented O&M procedures are not required, verifying compliance would be more difficult than verifying compliance for the proposed project and Alternative C. The proposed project is superior to this project alternative since compliance verification would be more effective.

PAR 1156 is not expected to change the environmental analyses conclusions for any of the alternatives presented in the 2005 Final EA for PR 1156. No new alternatives were identified for PAR 1156. Finally, the SCAQMD Governing Board can choose all or part of any of the project alternatives in connection with staff's proposed modifications to Rule 1156.

Table 1-2
Summary of Rule 1156/PAR 1156 and Project Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Baghouse standards – kilns/clinker cooler (d)(4), and other equipment (d)(6)	Baghouse performance standard of 0.01 grain/dscft PM for existing equipment and 0.005 grain/dscf for new equipment with COMS/BLDS for top emitters and O&M procedures	Compliance with Rule 1112.1, 404 and 405	Baghouse performance standard of 0.03 grain/dscf without COMS/BLDS and O&M procedures	Baghouse performance standard of 0.005 grain/dscf with PM CEMS for top emitters and O&M procedures	Overall reduction 50 percent of baseline emissions without COMS/BLDS and O&M procedures
Process Equipment Loading, Unloading and Transferring (d)(2)(A) and (d)(2)(B)	Enclose loading/unloading process units and vent to baghouses; and cover existing conveyors	Same as project	Same as project	Enclose loading/unloading process units and vent to baghouses; and enclose existing conveyors	Same as project
Screening, Milling, Grinding, Blending, Drying, Heating, Mixing, Sacking, Palletizing, Packaging and Other Related Operations (d)(3)(B) and (C)	Enclose system and vent to baghouse	Compliance with Rule 403	Same as no project	Enclose system and vent to baghouse	Same as project
Crushing (d)(3)(B) and (C)	Enclose system and vent to baghouse; or wind screens with wet suppression	Compliance with Rule 403	Same as no project	Enclose system and vent to baghouse	Same as project

Table 1-2 (Concluded)
Summary of Rule 1156/PAR 1156 and Project Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Active clinker piles a) Control (d)(5)(B) b) Loading and Unloading (d)(5)(E)	a) Enclose ~~active~~ clinker storage piles ~~with a four acre area or a cumulative 12-month rolling average clinker loading and unloading (or processing) rate > 80,000 ton/year~~[a] b) Loading/unloading within enclosure	Compliance with Rule 403	a) Chemical stabilizer, or three-sided barrier with two feet of freeboard, or three - sided barrier with roof, or tarp entire surface b) Loading/unloading with dust suppressants	a) Enclose all active storage piles b) Loading/ unloading within enclosure	Same as project
Other active/ inactive piles a) Control (d)(5)(C) b) Loading and Unloading (d)(5)(E)	a) Chemical stabilizer, or three-sided barrier with two feet of freeboard, or three-sided barrier with roof, or tarp entire surface b) Loading/unloading with dust suppressants	Compliance with Rule 403	Same as project	a) Enclose all active storage piles b) Loading/ unloading within enclosure	Same as project
Chemical dust suppressant/ Watering	Water or chemical dust suppressants allowed for process and storage piles; chemical dust suppressants only for unpaved roads.	Compliance with Rule 403	Same as project	Chemical dust suppressants only	Same as project
Compliance dates	One year to meet pulse jet baghouse and active storage pile enclosure requirements, Five years to meet non-pulse jet bag requirements, and 6 months for other requirements.	Compliance with Rule 403	Eight years to meet all requirements	Two years to enclose storage piles and one year to enclose crusher	Baghouse compliance phased over three to five years

a) PAR 1156 would require the enclosure of all clinker storage. Strike out and underline showed changes between PAR 1156 and the existing Rule 1156.

Table 1-3
Comparison of Adverse Environmental Impacts of the Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Air Quality Emission Reductions					
Baghouse standards – kilns/clinker cooler and other equipment	0.2 ton/day PM reduction by December 31, 2010	None	None	0.3 ton/day PM reduction by December 31, 2010	0.2 ton/day PM reduction within 5 years
Process Equipment	0.5 ton/day PM reduction by December 31, 2010	None	Same as proposed project within three years; delays required control one year longer than proposed project	0.7 ton/day PM reduction by December 31, 2010	Same as proposed project
Storage Piles	0.04 ton/day PM reduction by December 31, 2006	None	0.015 tons/day PM reduction with three years; delays required control two years longer than proposed project	0.05 ton/day PM reduction within two years; delays required control one year longer than proposed project	Same as proposed project
Vehicle Traffic	1.5 ton/day PM reduction within six months of rule adoption	Same as proposed project	Same as proposed project	Same as proposed project	Same as proposed project
Total Emission Reductions, ton/day	2.1		2.1	2.4	2.1

Table 1-3 (Conclude)
Comparison of Adverse Environmental Impacts of the Alternatives

Description	**Rule 1156/PR 1156**	**Alternative A No Project**	**Alternative B Partial Enclosures**	**Alternative C Full Enclosures**	**Alternative D Reduction from Baseline**
Construction Emissions	Significant NOx emissions at 248 lb/day over one year	None	Significant NOx emissions at 175 lb/day over three years; would allow construction emission two years longer than proposed project.	Significant NOx emissions at 367 lb/day for two years would allow construction emission one year longer than proposed project.	Same as proposed project
Secondary Operational Emissions	No significant emissions	None	No significant emissions, less than PR 1156	No significant emissions More than PR 1156	Same as proposed project
Air Quality Impacts Significant?	Yes, construction emissions	No	Yes, construction emissions	Yes, construction emissions	Yes, construction emissions
Hydrology/Water Quality Impacts Significant?	No	No	No	No	No

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed rule.

GENERAL INFORMATION

Name of Proponent:	South Coast Air Quality Management District
Address of Proponent:	21865 Copley Drive Diamond Bar, CA 91765
Lead Agency Name:	South Coast Air Quality Management District
CEQA Contact Person:	James Koizumi (909) 369-3234
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Name of Project :	Proposed Amended Rule 1156 – Further Reduction of Particulate Emissions from Cement Manufacturing Facilities

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. Any checked items represent areas that may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agricultural Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☐	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation /Traffic
☐	Energy	☐	Noise	☐	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☐ I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: July 11, 2008 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor – CEQA
Planning, Rule Development, and Area Sources

GENERAL EFFECTS OF THE PROPOSED PROJECT

The net effect of the proposed amended rule would be to further reduce fugitive dust PM emissions from cement manufacturing facilities, specifically from clinker storage piles. Secondary emissions generated by construction are expected to be significant for air quality; however, adverse affects from construction of full enclosures were previously evaluated in the Final EA for Proposed Rule 1156 (SCAQMD No. 050307JK) dated October 13, 2005.

On June 24, 2008, SCAQMD and TXI entered into a settlement agreement in response to an enforcement action against TXI. Under the terms of the settlement agreement, TXI will pay one million dollars and implement measures to reduce dust emissions from clinker storage piles. TXI will remove all open clinker storage piles by November 30, 2008. Since clinker storage will end because of the settlement agreement before the proposed amended rule would be presented to the Governing Board for consideration, it was assumed that TXI would not be affected by the provisions of PAR 1156. As a result, implementing PAR 1156 would not generate any secondary environmental impacts at the TXI facility. All of the analysis focuses on adverse impacts from CPCC.

During visits to the CPCC facility, there are three clinker open storage pile areas. Two of the clinker storage piles were estimated to be 40,000 square feet (0.92 acre) each. The third storage pile is much smaller. Since enclosures are expensive, it is believed that the third smaller clinker storage pile would be combined with one of the other two larger storage piles. The combined size of all clinker storage piles on-site was estimated to be approximate two acres.

While the 2005 Final EA assumed that a full enclosure would occur at each site, the adverse impacts from building two full enclosures would have the same adverse impacts, whether the enclosures were built at each facility or at a single facility. Therefore, the analysis and the conclusions from the 2005 Final EA and the proposed project would be the same.

The exemption from the storage pile requirement of enclosure or three-sided barrier, or from using AQMD Rule 403 test methods for the demonstration of a pile's surface stabilization if the materials contained in 90 percent of the pile's volume are larger than half an inch would be altered. Under the proposed amended rule, this would change to a mass basis test and would specifically exclude clinker material. Therefore, operators who have open piles containing materials other than clinker would be exempt from the above mentioned requirements if the materials contained in 90 percentage of the pile's mass are larger than ½-inch. A new sampling methodology also would be added to PAR 1156. The measurement on any composite sample of at least 10 pounds taken at a minimum depth of 12 inches below the pile surface, and at various locations of the pile, but not within 12 inches from the base.

The enclosure of clinker storage piles is evaluated in the check list. However, the exemption is not expected to affect any other storage pile at cement manufacturing facilities. The change from volume to mass basis is not expected to subject any non-clinker storage piles to the enclosure or barrier requirements that are exempt under the existing rule. The sampling methodology is not expected to adversely impact any environmental areas. Therefore, the amendment to the exception of storage piles from enclosure or barrier requirements is not expected to generate any significant adverse impact on any environmental area and will not be analyzed further.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑

SIGNIFICANCE CRITERIA

The proposed project impacts on aesthetics would be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse aesthetic impacts from the current rule would not be significant.

a) through d) PAR 1156 would require the construction of buildings, structures or other edifices that could partially obstruct views of scenic resources. Enclosures for clinker storage piles would need to be added; however, the facility is located in an industrial area. PAR 1156 would only affect fugitive dust sources on-site of one existing facility. The proposed project would only affect one facility in the district and since the proposed project would occur on this one site, it is not expected to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. While the enclosures for the storage piles would be larger than the existing storage piles in order to cover them, the enclosures would also prevent visible dust which can obstruct or distort views of scenic resources. Additionally, there are few, if any scenic vistas or views located near the affected facility. Therefore, since the facility is in an industrial area, and proposed amended rule would

reduce visible dust; these changes to existing equipment at the existing facility would not significantly alter the visual characteristics in the vicinity of the affected facility.

PAR 1156 does not, in any way, require construction of any new cement manufacturing facilities. Adoption of the proposed amended rule would further control fugitive dust emissions in the district. Implementing the proposed amended rule may improve aesthetics by reducing dust that may obstruct or damage scenic vistas thereby improving visibility. PAR 1156 does not encourage or require night operations. However, further implementing dust control measures at night would only be necessary if an affected facility operates at night. As a result the proposed project is not anticipated to create or require any new sources of light or glare which would adversely affect day or nighttime views in any scenic areas.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on aesthetics are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

SIGNIFICANCE CRITERIA

Project-related impacts on agricultural resources would be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse agricultural resource impacts from the current rule would not be significant.

a) and c) PAR 1156 would reduce PM emissions from one cement manufacturing facility in the district. The proposed amendments do not, however, require the acquisition of any land for the construction of any building or structure, and do not require conversion of farmland to other uses. The proposed amendments would not convert any existing, prime or unique farmland to a non-agricultural use; nor would the proposed amendments cause other changes to the existing environment which would result in the conversion of any existing, prime or unique farmland to a non-agricultural use.

b) The proposed amended rule would reduce PM emissions from the one cement manufacturing facility in the district. The proposed amended rule has no effect on, and would not conflict with existing zoning or any Williamson Act contracts, because the proposed project does not require acquisition of any land that may currently be subject to a Williamson Act contract.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on agricultural resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☑	☐	☐

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☑	☐
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts will be evaluated and compared to the significance criteria in Table 2-1. If impacts equal or exceed any of the following criteria, they are considered significant.

DISCUSSION

The 2005 Final EA for PR 1156 determined that only air quality impacts from construction were significant. All other air quality impacts were determined by the 2005 Final EA to be less than significant.

Ultimately, it is the responsibility of the SCAQMD under state and federal law to reduce emissions of those substances that impair public health including primary and secondary air contaminants. Pursuant to the provisions of both the state and federal CAA, the SCAQMD is required to attain the federal ambient air quality standards for all criteria pollutants, including PM10. The SCAQMD's planning document which sets forth policies and measures to achieve federal and state air quality standards in the region is the AQMP. The AQMP strategy includes measures which target stationary, mobile and indirect sources. These measures are based on feasible methods of attaining ambient air quality standards. The proposed amended rule would obtain further PM10 emission reductions from one cement manufacturing facility, and would assist the SCAQMD in its efforts to attain state and federal PM10 air quality standards. Rule 1156 implemented control measure BCM-08 from the 2003 AQMP, PAR 1156 would further the reductions gained under Rule 1156. The direct effect of implementing PAR 1156 is a reduction in PM fugitive dust emissions by 0.0594 to 0.119 tons of PM (0.0198 to 0.0396 tons of PM10) per day (119 to 238 pounds of PM (39.6 to 79.2 pounds of PM10) per day) from enclosing clinker storage piles. The preliminary emission inventory and emission reductions are presented in Table 2-2.

Because the proposed project would further reduce PM10 emissions, which would assist in attaining ambient air quality standards, this project would not conflict with or obstruct implementation of the applicable air quality plan.

Table 2-1
Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [d]		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (federal)	
PM10 24-hour average annual arithmetic mean	10.4 $\mu g/m^3$ (construction)[e] & 2.5 $\mu g/m^3$ (operation) 20 $\mu g/m^3$	
PM2.5 24-hour average	10.4 $\mu g/m^3$ (construction)[e] & 2.5 $\mu g/m^3$ (operation)	
Sulfate 24-hour average	1 $\mu g/m^3$	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu g/m^3$ = microgram per cubic meter ≥ greater than or equal to

Table 2-2
Preliminary Emission Inventory and Emission Reductions

Equipment/Process	Inventory (ton/day)		Emission Reductions (ton/day)	
	PM	PM10	PM	PM10
Clinker Storage Piles	0.06 to 0.12	0.02 to 0.04	0.0594 to 0.119	0.0198 to 0.0396

Full enclosures are expected to reduce PM/PM10 by 99 percent.

(b), (c) and (f) While the proposed amended rule is designed to reduce PM emissions, there is the potential for adverse secondary air quality impacts associated with fugitive exhaust emissions from construction operations.

Construction Activity Impacts
PAR 1156 would result in construction impacts from the installation of two full enclosures for clinker storage at one of the two affected facilities. The other facility has entered an agreement with SCAQMD to remove all open clinker storage piles. Adverse air quality impacts from construction of two full enclosures, three three-sided enclosures and covering of transfer points were analyzed in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. While the 2005 Final EA for PAR 1156 evaluated building a single full enclosure at each affected facility, and PAR 1156 is expected to require two full enclosures at a single facility, the adverse impacts from either scenario would be the same. The following subsections describe construction activities that may occur to install dust control equipment.

Construction at New Facilities
PAR 1156 does not require construction of new cement manufacturing facilities, but in the event new cement manufacturing facilities are built, emissions from new facilities subject to PAR 1156 would be lower than emissions from new facilities not subject to PAR 1156, because new facilities would have to apply BACT as well as comply with PAR 1156 requirements. After adoption of PAR 1156, any construction of new cement manufacturing facilities would occur for reasons unrelated to PAR 1156. Like any new land use project, a new cement manufacturing facility would likely be subject to CEQA by the local land use agency and, therefore, would be required to undergo its own CEQA analysis. Therefore, this analysis does not include impacts from potential new facilities.

Existing Facilities

Construction of Clinker Storage Pile Enclosures
PAR 1156 would require operators to enclose open piles of clicker. The enclosures would require overlapping flaps, sliding doors or other equivalent devices approved by the Executive Officer, which would be required to remain closed except to allow vehicles to enter or exit.

The Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, evaluated adverse impacts from the construction of full enclosures for storage piles. The 2005 Draft EA for PR 1156 analyzed the construction of one full enclosure at each affected facility. It was determined subsequent to the public review of the Draft EA that neither facility would build an enclosure to comply with the rule. However, the adverse impacts from the full enclosures

remained in the analysis to be conservative and to cover a situation where an operator decides to fully enclose storage piles. Table 2-3 presents the emissions estimated for Rule 1156 in the 2005 Final EA from the construction related to the proposed rule, which included a full enclosure at each facility, three three-sided barriers and miscellaneous construction to cover transfer points.

Because of the anticipated number of construction equipment (approximately ten pieces), the type of equipment (cranes, rough terrain forklifts, tractors/loaders/backhoes, and generator sets), the size of the equipment, and hours of operation, construction air quality NOx impacts were determined to exceed the applicable NOx construction significance threshold. However, construction impacts are limited in duration.

Table 2-3
Total Estimated "Worst-Case" Daily Air Quality Emissions from Construction of Control Technology to Comply with PR 1156 from the 2005 Final EA[a]

Sources	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5[b] lb/day
Construction of Two Full Enclosures	48.8	11.4	99.6	7.8	5.8	5.8
Construction of Three Three-Sided Enclosures	40.8	7.5	81.0	7.8	6.0	6.0
Miscellaneous Construction	29.2	7.4	67	4.4	4.4	4.4
Maximum Daily Emissions	**119**	**26**	**248**	**20**	**16**	**16**
Significance Threshold	550	75	100	150	150	50
Exceed Significance?	No	No	Yes	No	No	No

a) From Table 4-6 of 2005 Final EA for PR 1156, except for PM2.5.
b) PM2.5 assumed to be the same as PM10 to be conservative, even though PM2.5 is actually a fraction of PM10.

Under the proposed project, cement manufacturing facility operators would be required to enclose clinker storage areas within a five month period. Based on site visits, SCAQMD staff estimates that two enclosures would be required at one affected facility. The other affected facility will not have open storage of clinker by November 2008, pursuant to a settlement agreement with the SCAQMD, and therefore, the proposed rule would not require any construction at that facility.

In the 2005 Final EA for PR 1156, emissions from the construction of three-sided enclosures were included in the analysis of the proposed rule. PAR 1156 would not affect the requirements related to non-clinker storage piles. However, since the adoption of the rule, facility operators have complied with the active open storage pile requirements by either applying chemical dust suppressants or covering the storage piles with tarps. Facility operators have told SCAQMD staff that they will continue to apply chemical dust suppressants or tarp active open storage piles rather than building three-sided enclosures. However, since the construction of three-sided enclosures were evaluated in the 2005 Final EA for PR 1156, and evaluating construction from the three-sided enclosures is more conservative than not evaluating it, no change will be made to the analysis.

The 2005 Final EA for PR 1156, evaluated emissions from the construction of covers for transfer points. PAR 1156 would not affect the requirement to cover transfer points, so PAR 1156 would not affect the analysis of covering the transfer points.

Since the proposed project would generate emissions and adverse impacts that are the same as the 2005 Final EA for PR 1156; and the Governing Board could have chosen any of the alternatives in whole or in part, the criteria emissions and associated adverse impacts were disclosed to the public in the 2005 Final EA for PR 1156.

Since emissions and adverse impacts from construction and operation pursuant to PAR 1156 are consistent with the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

Cumulative Adverse Impacts
Since the criteria emission from NOx were determined to be significant, the 2005 Final EA for PR 1156 determined that the cumulative NOx emissions would be cumulatively considerable pursuant to CEQA Guidelines §15065(a)(3). Two hundred and forty-eight pounds of NOx per day was estimated for the existing rule and 367 pounds of NOx per day was estimated for the worst-case alternative, Alternative C. NOx emissions estimated for the existing rule, as well as the NOx limits for each of the proposed projects are all above the significance threshold of 100 pounds of NOx per day. The NOx emissions from the proposed amended rule are expected to be the same as the NOx emissions analyzed for the existing rule. Since the cumulative NOx emissions from the proposed project are the same as those analyzed for PR 1156 in the 2005 Final EA, SCAQMD can rely on the cumulative analysis in the 2005 Final EA for PR 1156 as the Draft EA for the proposed project. Therefore, PAR 1156 would not alter the 2005 Final EA's conclusion of NOx cumulative significance.

Operational Activity Impacts
The adverse operational impacts from the 2005 Final EA for PR 1156 are presented in Table 2-4. The emissions are from the delivery of additional chemical dust suppressant. These criteria emissions are below the operational criteria significance thresholds. Therefore, operational emissions were expected to be less than significant.

There would be no additional adverse direct or secondary operational impacts from enclosing clinker storage at cement manufacturing facilities. Enclosing clinker storage would reduce the number of trucks that would be required to deliver and apply chemical stabilizers, since chemical stabilizers would not be required for enclosed storage piles.

Table 2-4
Total Secondary Criteria Emission Impacts from Operational Requirements in PR 1156[a]

Description	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day
Delivery Truck Trips	2.27	0.50	14.95	0.15	0.28	0.28
Significance Threshold	550	55	55	150	150	55
Significant?	No	No	No	No	No	No

a) From Table 4-8 of 2005 Final EA for PR 1156, except for PM2.5.
b) PM2.5 assumed to be the same as PM10 to be conservative, even though PM2.5 is actually a fraction of PM10.

Conclusion
The intent of the proposed amended rule is to further reduce PM10 fugitive dust emissions from cement manufacturing facilities in the district. As previously noted, the direct affect of implementing the PAR 1156 is a reduction in PM fugitive dust emissions by 0.0594 to 0.119 tons of PM (0.0198 to 0.0396 tons of PM10) per day (119 to 238 pounds of PM (39.6 to 79.2 pounds of PM10) per day). As a result of the preliminary analysis above, the proposed project may generate significant adverse air quality impacts during construction. Secondary emissions from construction activities are temporary; however, they are expected to exceed NOx significance thresholds. Operation emissions from chemical dust suppressant delivery operations are expected to be reduced, since chemical stabilizers would no longer be required for enclosed storage piles. Since emissions and adverse impacts from construction are consistent with the proposed project of the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

Toxic Emissions
Subsequent to the adoption of Rule 1156, during the preparation of the MATES III analysis, SCAQMD staff identified an upward trend of hex chrome emissions at the Rubidoux monitoring station in Western Riverside County, over two miles to the southwest of TXI. Through thorough investigation, SCAQMD staff has determined that handling and transporting grey clinker material is the primary source of hex chrome. By enclosing clinker storage piles, PAR 1156 would reduce potential hex chrome emissions. The reduction in hex chrome would result in a reduction of carcinogenic and chronic non-carcinogenic health risk at the CPCC facility in the future.

Pursuant to the Settlement Agreement between SCAQMD and TXI, the clinker storage piles would be eliminated from the site, which is expected to eliminate exposures to hex chrome emissions.

PAR 1156 would reduce the amount of chemical dust suppressant, since enclosed clinker storage piles would not require chemical dust suppressants, because enclosures are considered fugitive dust control. This would reduce the number of truck trips to deliver and apply the chemical dust suppressants. The reduction in truck trips would result in a reduction of carcinogenic and chronic non-carcinogenic health risk from diesel exhaust particulates.

Neither hex chrome nor diesel particulate has been identified as an acute non-carcinogenic health risk; therefore, there would be no expected change to acute non-carcinogenic health risk.

Greenhouse Gases

Greenhouse gases (GHG) emissions were not evaluated in the 2005 Final EA for PR 1156. At the time the 2005 Final EA for PAR 1156 was prepared, GHG emission analysis methodologies had not been developed. The analysis is included here for completeness.

In addition to criteria pollutant emissions, combustion processes generate GHG emissions that have the potential to affect global climate. The following GHG analysis focuses on CO2 emissions because this is the primary GHG pollutant emitted during the combustion process and is the GHG pollutant for which emission factors are most readily available. U.S. Department of Energy, Energy Information Administration factors were used to determine carbon dioxide (CO2) emission factors. Other GHGs are emitted, but a complete set of emissions factors are not available; therefore, only CO2 was analyzed.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO2 is approximately 100 years, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. Further, the action of GHGs is global in nature, rather than local or even regional. As a result, GHG emission impacts are considered to be cumulative impacts rather than project-specific impacts.

Typical GHG emission inventories (EPA[6], ARB[7], etc.) present directly emitted GHGs during a given year. Table 2-5 presents CO2 emissions from the proposed project, which would be the same as the emissions from the adopted PR 1156 project and alternatives. Detailed calculations of the CO2 emissions are included in Appendix C.

In the absence of a specific significance threshold, SCAQMD staff has evaluated significance for projects where it is the lead agency on a case-by-case basis. In this analysis, SCAQMD staff has used a variety of benchmarks to evaluate GHG impacts. As additional information is compiled with regard to the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

[6] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, http://www.epa.gov/climatechange/emissions/downloads06/07CR.pdf, April 15, 2007

[7] ARB, Statewide Greenhouse Gas (GHG) Emissions Inventory 1990 to 2004, http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm.

Table 2-5
Worst-Case Annual CO2 Construction Emissions Resulting from PAR 1156

Description	CO2, metric ton/yr
Proposed Project (equivalent to PR 1156 Adopted Project)	1,119
Alternative A (No Project)	-
Alternative B (Partial Enclosure)	612
Alternative C (Full Enclosures)	4,147
Alternative D (Reduced Baseline)	1,119

The proposed project and Alternatives B and D could be completed in a single year. Alternative C would require two years to complete. Alternative A is the no project alternative, which would not generate any new emissions. The values presented in this table represent the worst-case year. After construction is completed CO2 emissions would be reduced to only the operational emissions, which is 1.7 metric tons per year for the proposed project and Alternatives B and D, and 0.37 metric ton per year for Alternatives C. There are less operational emissions from Alternative C, because all of the storage piles are fully enclosed.

In its *CEQA & Climate Change* document (January, 2008), CAPCOA identifies many potential GHG significance threshold options. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while also setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons per year, which was considered by the Market Advisory Committee for inclusion in a greenhouse gas cap and trade system in California. Another potential threshold identified by CAPCOA is 25,000 metric tons per year, which is CARB's mandatory reporting threshold under AB 32. GHG emissions in the year 2014 from PAR 1156 would be lower than both of these reporting thresholds.

Finally, another approach to determining significance is to estimate what percentage of the total inventory of GHG emissions are represented by emissions from a single project. If emissions are a relatively small percentage of the total inventory, it is possible that the project will have little or no effect on global climate change. According to available information, the statewide inventory of CO2eq. emissions is as follows: 1990 GHG emissions equal 427 million metric tons of CO2eq. and 2020 GHG emissions equal 600 million metric tons of CO2eq. with business as usual. Interpolating an inventory for the year 2008 results in 531 million metric tons of CO2eq. CO2 emissions in from the project of 1,119 metric tons from PAR 1156 represent 0.00026 percent of the statewide GHG inventory in 2008. The worst-case from Alternative C is 4,147 metric tons, which is 0.00097 percent of the statewide GHG inventory in 2008. CO2 emissions from the proposed project and alternatives are presented in Table 2-6. This small percentage of GHG emissions compared to the total projected statewide GHG emissions inventory is another basis for the SCAQMD's conclusion that GHG emissions from implementing PAR 1156 or the alternatives is less than significant.

Table 2-6
Comparison of Proposed Amended Rule 1156 CO2 Emissions to the 2008 Statewide CO2 Emissions

	PAR 1156 CO2 Emissions (metric ton/yr)	2014 Statewide CO2 Emissions (million metric ton/yr)	Percentage of PAR 1156 to Statewide CO2 emissions
Proposed Project (equivalent to PR 1156 Adopted Project)	1,119	427	0.00026
Alternative A	-	427	-
Alternative B	612	427	0.00014
Alternative C	4,147	427	0.00097
Alternative D	1,119	427	0.00026

PAR 1156 is part of a comprehensive ongoing regulatory program that includes implementing related SCAQMD 2007 AQMP control measures as amended or new rules to attain and maintain with a margin of safety all state and national ambient air quality standards for all areas within its jurisdiction. The 2007 AQMP estimates a CO2 reduction of 427,849 metric tons per year by 2014, and a CO2 reduction of 1,523,445 metric ton per year by 2020. Therefore, PAR 1156 or any of the alternatives in connection with other 2007 AQMP control measures is not considered to be cumulatively significant.

Since GHG emissions are considered cumulative impacts and the GHG emissions from PAR 1156 and all the alternatives are below the 10,000 metric tons per year Market Advisory Committee threshold, the 25,000 metric tons per year CARB proposed mandatory reporting threshold under AB 32, a small percentage of the total statewide GHG inventory in 2014, and, with other control measures in the 2007 AQMP, which is a comprehensive ongoing regulatory program that would reduce overall CO2 emissions; cumulative GHG adverse impacts from PAR 1156 or its alternatives are not considered significant.

Since the CO2 emissions from this project are from construction, the peak year CO2 emissions would be eliminated after the completion of construction of the clinker pile enclosures (one year for the proposed project and Alternatives B and D, and two years for Alternative C). The proposed project and Alternatives B and D would generate 1.7 metric tons per year for chemical dust suppressant delivery. Alternative C would generate 0.37 metric ton per year. Alternative C would require less chemical dust suppressant because all storage piles would be fully enclosed.

d) Sensitive receptors in the district are currently exposed to daily PM10 conditions. PM10 has been found to lodge within the lungs contributing to respiratory problems. Implementing the proposed project is intended to reduce PM10 fugitive dust, which would reduce the exposure of surrounding neighborhood around the facility including sensitive receptors to PM10 concentrations, thereby improving public health in that area.

e) The proposed project is expected to require construction of enclosures for clinker storage. Odors are often associated with diesel emissions from construction equipment. Potential odor impacts from the proposed project are not expected to be significant because the incremental increase in the operation of heavy-duty construction vehicles would last for short periods of time or occur in remote locations so it is not likely that substantial odors would accumulate at any individual site.

Based on the above discussion, the proposed project may generate significant adverse air quality impacts. However, these adverse impacts have been previously disclosed in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑

Significance Criteria
Impacts on biological resources would be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse biological resource impacts from the current rule would not be significant.

(a) and (b) In general, the net effect of PAR 1156 would be extend dust control requirements from clinker storage. In particular, PAR 1156 would require enclosing clinker storage piles at cement manufacturing practices at one existing facility in the district. Construction of new cement manufacturing facilities may occur regardless of adoption of PAR 1156 and, therefore, is unrelated to PAR 1156. Construction of new cement manufacturing facilities would require a separate CEQA analysis prior to construction. There are no provisions in the proposed amended rule that require or result in any specific disturbance of undisturbed habitat or have a direct or indirect impact on plant or animal species. No reductions in sensitive plant or animal species are expected to result from implementing the PM control requirements specified in the proposed amended rule. No riparian habitat or other sensitive natural community would be affected by PAR 1156 because the affected facilities are located in industrial areas that have been previously

disturbed and cleared for safety. Implementing the proposed amended rule may improve wildlife habitats by reducing dust that may obstruct or damage these areas.

(c) The proposed amended rule is expected to increase existing efforts at one existing facilities in the district to control PM emissions. The proposed project does not require any direct removal, filling, hydrological interruption, or other activities in, or near, wetland areas as defined by §404 of the Clean Water Act (CWA). Thus, no adverse effects on these areas are expected.

(d), (e) and (f) Construction would occur at one existing facility located in industrial areas. The proposed amended rule is expected to increase existing efforts in the district to control PM emissions, specifically from clinker storage. There are no provisions in the proposed amended rule that conflicts with any local policies or ordinances that protect biological resources. The proposed project would not interfere with the movement of any native or migratory animals, affect wildlife corridors, or impede the use of native wildlife nursery sites, because it only affects dust control of clinker storage entirely within the boundaries of one facility.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on biological resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d) Disturb any human remains, including those interred outside formal cemeteries?	☐	☐	☑

SIGNIFICANCE CRITERIA
Impacts to cultural resources would be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse cultural resource impacts from the current rule would not be significant.

a) through d) In general, the net effect of the proposed amended rule would be to extend dust control requirements by requiring enclosing clinker storage at one existing cement manufacturing facility in the district. The proposed amended rule does not require the demolition or construction of any buildings or structures, or other activities that could potentially adversely affect cultural resources. Any construction would occur at an existing cement manufacturing facility in locations that have been previously disturbed (i.e., at storage piles). No changes to historic, archaeological or paleontological resources or unique geologic features are required upon implementation of the proposed amended rule. The proposed project does include provisions that may require construction or other activities that require site preparation activities such as grading or earth movement in storage areas and existing roads were needed to enclose clicker storage piles. Site disturbance from construction activities is currently subject to the dust control requirements of Rule 403. PAR 1156 directly affects dust control at one existing facility, which is located on previously disturbed land. Since the proposed project would not require soil disturbance outside the boundaries of the affected facility, no disturbance of human remains or cemeteries is anticipated as a result of adopting and implementing the proposed project.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on cultural resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	☐	☐	☑
b) Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑
e) Comply with existing energy standards?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts to energy and mineral resources would be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse energy impacts from the current rule would not be significant.

a) through e) In general, the net effect of the proposed amended rule would be to extend dust control requirements by enclosing clinker storage at one cement manufacturing facility in the district. There are no provisions within the proposed amended rule which would conflict with adopted energy conservation plans, result in the need for additional power or natural gas, create impacts on local or regional energy supplies, impact existing energy standards, or affect peak and base demands for electricity or other forms of energy, since enclosing storage piles is not expected to increase the need for additional energy for operations. Diesel fuel would be required for construction equipment.

The additional diesel fuel use at the affected facility for four months of construction is not expected to adversely impact the supply of diesel fuel in the district. Since construction would occur in open material storage areas, electricity is expected to be supplied by diesel generators;

therefore, no increase in electricity use is expected from construction. No natural gas use is expected from construction operations, since natural gas utilities are not typically located close to open material storage areas.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on energy are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
• Strong seismic ground shaking?	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☑
• Landslides?	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts on the geological environment would be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, and compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse geology and soils impacts from the current rule would not be significant.

a & d) The proposed amended rule is intended to reduce PM fugitive dust emissions from clinker storage. Enclosures built to comply with PAR 1156 would have to comply with relevant requirements of the Uniform Building Code and any other state, county and city building and safety codes which account for seismic activity. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death is not anticipated and will not be further analyzed.

b) The proposed amended rule does not contain any provisions that would require disruption of soils that could result in soil erosion or loss of topsoil. Soils may be disturbed during construction at one affected facility during the enclosure of clinker storage. However, these disturbances during construction would occur at storage areas, which were previously disturbed and construction activities would be temporary in nature. The result of any construction activities would be to advance the proposed project goal of enhancing current requirements to

stabilize any soil disruptions, specifically to prevent wind erosion that contributes to PM emissions.

c) Accordingly, the installation of structures at the existing affected facility to comply with the proposed project is expected to conform to the Uniform Building Code and all other applicable state and local building codes. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected facility is located in heavy industrial areas. Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landsides, mudslides, ground failure, or other natural hazards.

e) The proposed project does not require or involve the installation of septic tanks or alternative wastewater disposal systems. Therefore, no impacts from failures of septic systems related to soils incapable of supporting such systems are anticipated.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on geology or soils are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts associated with hazards would be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.

- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse hazards and hazardous material impacts from the current rule would not be significant.

a) through c) In general, the net effect of PAR 1156 would be to extend dust control requirements by enclosing clinker storage at cement manufacturing operations in the district. There are no provisions in the proposed amended rule which would require or result in the routine transport, use, or disposal of hazardous materials; create a significant hazard to the public; emit hazardous emissions, or require the handling of hazardous materials within one-quarter mile of an existing or proposed school. The proposed amend rule is expected to reduce hex chrome emissions from clinker storage; therefore, PAR 1156 would reduce hazardous emission from clinker storage. The reduction in hex chrome emission would result in a health benefit.

d) Government code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). If the affected site or operations are identified on such a list, compliance with the proposed project is not expected to affect in any way the facility's hazardous waste handling practices.

e) & f) The proposed project does not involve the use or transport of hazardous materials that could adversely affect air traffic or safety. Furthermore, neither facility is within two miles of a public airport or within the vicinity of a private airstrip. The nearest air fields (Norton Air Force Base, Rialto Municipal Airport and FLABOB Airport) are all over six miles away from CPCC. Therefore PAR 1156 is not expected to generate significant adverse hazards or hazardous materials impacts on air traffic or safety.

g) The proposed amended rule is intended to reduce PM fugitive dust emissions and contains no provisions that could interfere with any adopted emergency response or evacuation plans.

h) & i) Any construction as a result of PAR 1156 would occur at an existing cement manufacturing facility. The proposed amended rule does not require the construction of any building, structure or facility in wildlands or any location that could expose people or structures to significant loss, injury, or death involving wildland fires. Similarly, complying with the proposed amended rule does not require or involve the use of flammable materials that could increase fire hazards in areas with flammable materials.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on hazard or hazardous materials are not significant. Since no significant adverse impacts are anticipated, this environmental topic will

not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIX. HYDROLOGY AND WATER QUALITY. Would the project:			
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☑	☐
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☑
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☑	☐

SIGNIFICANCE CRITERIA

Potential impacts on water resources would be considered significant if any of the following criteria apply:

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project would result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than five million gallons per day.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse hydrology and water quality impacts from the current rule would not be significant. The project-specific impacts are divided into two major impact categories - water quality and water demand.

Potential Water Quality Impacts from Dust Suppression

a), f), k) The proposed project would require the enclosure of clinker storage. Currently, PM from clinker storage piles is controlled with chemical dust suppressants. The chemical dust suppressants are applied bi-weekly (i.e., every two weeks). Water is not used because it reacts with clinker. Using chemical dust suppressants would not affect in any way NPDES or related permits. Chemical dust suppressants do not migrate appreciable distances so groundwater would not be affected. Enclosing clinker storage would reduce the amount of chemical dust suppressants used at the affected facility.

During construction fugitive dust would be suppressed by the application of water. The application of water to areas under construction is not expected to have adverse impacts to water quality. Therefore, the proposed project is not expected to violate any water quality standards or waste discharge requirements, substantially degrade water quality or exceed the water treatment requirements of the Regional Water Quality Control Board.

Potential Water Demand Impacts from Dust Suppression

b), e), l), m), n) & o) The proposed amended rule is intended to reduce windblown dust from clicker storage areas. As noted in previous discussions, implementing the proposed amended rule could incrementally increase the application of water during construction operations. Since

no water is currently used on clinker storage and the enclosed clinker storage would not need water; there would be no water use during operations, and therefore, no adverse impacts to water demand.

Watering is currently being used as one of a number of dust suppression methods for aggregate and related operations, construction and demolition sites, unpaved roads and parking lots, storage piles other than clinker, landfills, and bulk material facilities under Rule 403. State nuisance law (Cal. Health and Safety Code § 41700) also restricts PM10 emissions to levels that do not "... cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public..." With the exception of unpaved roads and parking lots, the most frequently employed method of control for the types of facilities listed above is watering.

The facility affected by PAR 1156 currently use water or dust suppressants to control fugitive dust from a number of dust generating activities to comply with Rule 403. Implementation of the proposed amended rule would create a temporary incremental additional demand for water in dust suppression activities during construction that would cease upon completion of construction.

The application of water for construction dust suppression is short term and expected to be well under the significance criteria of five million gallons per day. SCAQMD staff estimates that no more than five acres at each facility would be disturbed by construction. Assuming three applications of one-inch of water over ten acres, 271,524 gallons per day may be applied during construction (10 acres x 43,560 sq feet/acre x one inch/12 inch x 7.48 gallon/cubic foot = 271,524 gallon/ day). The additional water is expected to be applied by water truck; therefore, no additional infrastructure is required.

Water is expected to be applied to affected construction areas with little to no run-off. Application of enough water to generate run-off would be counter productive to construction, since it would make the construction area muddy. Existing wastewater and discharge infrastructure is expected to be sufficient to handle any run-off from over application of water for dust suppression of construction activities.

Therefore, PAR 1156 is not expected to substantially deplete groundwater supplies or interfere substantially with groundwater recharge, require or result in the construction new water or wastewater treatment or stormwater drainage facilities or expansion of existing water facilities, or require a determination by the wastewater treatment provider that adequate capacity to serve the project is available. The proposed project would have sufficient water supplies to serve it from existing entitlements and resources.

Other Potential Impacts

c) & d) The proposed project does not involve altering the course of any stream, river, or drainage patterns, nor is it expected to alter any existing drainage patters at the affected site that could result in soil erosion or provide additional sources of polluted runoff. The proposed project does involve increasing dust control watering at the affected site during construction. However, the volume of water anticipated to be used would not substantially increase the rate or amount of surface runoff at any affected facility in the district in a manner that would result in

flooding, either on- or offsite, since construction work at the affected facility is expected only to dampen and/or stabilize dirt in construction areas.

g), h), i) & j) The proposed project does not require the construction of any buildings or other structure in a 100-year flood hazard area, which could impede or redirect flood flows. Similarly, the proposed project does not involve construction of structures, levees, or dams that could expose people or structures to a significant risk of loss, injury or death resulting from the failure of a levee or dam. Finally, the proposed project does not require construction of buildings or any other structures in or near areas that could be inundated by seiche, tsunami, or mudflow.

Based on the above discussion, the proposed project would incrementally increase demand for water because of increased water use and wastewater disposal. As a result water demand impact will not be further analyzed.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on hydrology and water quality are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c) Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

SIGNIFICANCE CRITERIA

- Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse land use and planning impacts from the current rule would not be significant.

a) through c) The net effect of PAR 1156 would be to enclose clinker storage at one cement manufacturing facility in the district. Typically, land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the proposed project. Further, the proposed amendments do not require the construction of any structure, building or facility, except for the addition of control equipment to already existing process equipment. Finally, the proposed amendments would not physically divide an established community, nor conflict with any land use, habitat conservation or natural community conservation plans.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on land use and planning are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

SIGNIFICANCE CRITERIA
Project-related impacts on mineral resources would be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse mineral resources impacts from the current rule would not be significant.

a) and b) No provisions of the proposed amended rule are expected to result in the loss of availability of known mineral resources, such as aggregate, minerals, etc., or the loss of availability of a locally-important mineral resource site. The net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on mineral resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts on noise would be considered significant if:

- Construction noise levels exceed local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse noise impacts from the current rule would not be significant.

a), b), c) & d) Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying (unwanted noise). Sound levels are measured on a logarithmic scale in decibels (dB). The universal measure for environmental sound is the "A" weighted sound level, dBA, which is the sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. "A" scale weighting is a set of mathematical factors applied by the measuring instrument to shape the frequency content of the sound in a manner similar to the way the human ear responds to sounds.

The State Department of Aeronautics and the California Commission of Housing and Community Development have adopted the Community Noise Equivalent Level (CNEL). The CNEL is presented in Table 2-7. The CNEL is the adjusted noise exposure level for a 24-hour

day and accounts for noise source, distance, duration, single event occurrence frequency, and time of day. The CNEL considers a weighted average noise level for the evening hours, from 7:00 p.m. to 10:00 p.m., increased by five dBA, and the late evening and morning hour noise levels from 10:00 p.m. to 7:00 a.m., increase by 10 dBA. The daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value. The adjustment accounts for the lower tolerance of people to noise during the evening and nighttime periods relative to the daytime period.

Federal, state and local agencies regulate environmental and occupational, as well as, other aspects of noise. Federal and state agencies generally set noise standards for mobile sources, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of General Plan policies and Noise Ordinance standards, which are general principles, intended to guide and influence development plans. Noise Ordinances set forth specific standards and procedures for addressing particular noise sources and activities. The Occupational Safety and Health Administration (OSHA) sets and enforces noise standards for worker safety.

One example of local jurisdiction requirements might be the City of Riverside. Existing operational noise generated from cement manufacturing operations in Riverside would be subject to the City of Riverside Noise Element of the General Plan and/or the City of Riverside Municipal Code. Table 2-8 summarizes these requirements. Other local jurisdictions typically have similar requirements.

Table 2-7
State of California and Exterior Noise Standards

Land Use	Interior	Exterior
Residential – Single-family, multi-family, duplex, mobile home	CNEL 45 dB	CNEL 65 dB
Residential – Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	Leq(12) 45 dB(A)	---
Schools	Leq(12) 45 dB(A)	Leq(12) 67 dB(A)
General offices, reception, clerical, etc.	Leq(12) 50 dB(A)	---
Bank, lobby, retail store, restaurant, etc.	Leq(12) 55 dB(A)	---
Manufacturing, kitchen, warehousing, etc.	Leq(12) 65 dB(A)	---
Parks, playgrounds	---	CNEL 65 dB
Golf courses, outdoor spectator sports, amusement parks	---	CNEL 70 dB

CNEL – Community Noise Equivalent Level
Leq(12) – The A-weighted equivalent sound level averaged over a 12-hour period.

Table 2-8
City of Riverside Noise Requirements

Document	Requirement
Noise Element of the General Plan of the City of Riverside	Requires that the City of Riverside enforce the California Noise Insulation Standards, Title 24.
City of Riverside Municipal Code Chapter 7.25.010	Requires that noise levels within a residential zone not exceed 55 dBA between 7 a.m. to 10 p.m. or 45 dBA between 10 p.m. and 7 a.m.; 65 dBA for any office/commercial or public recreation facility; and 70 dBA for industrial or nonurban categories.
City of Riverside Municipal Code Chapter 7.35.010	Construction activities prohibited between the hours of 7:00 p.m. and 7:00 a.m. on week days, between 5 p.m. and 8 a.m. on Saturdays or any time on Sunday or federal holidays such that the sound creates a noise disturbance across residential or commercial property lines or exceeds maximum permitted noise for the underlying land use category, except for emergency work by variance.

Construction-Related Noise
PAR 1156 includes construction activities to comply with the proposed amended rule. Sources which may be expected to generate noise during temporary construction activities might include earth-moving equipment, trucks, work-crew vehicular traffic, compressors and generators. Table 2-9 presents a range of noise levels for various types of equipment that may be used at a typical construction site. Because of the nature of this activity, the types, numbers, periods of operation, loudness of equipment, and distance to the closest sensitive receptor/residence, will vary with each construction phase and the size of the affected facility.

Table 2-9
Typical Construction Noise Sources

Equipment Type	Typical Range (decibels)
Tractors/Crawlers/Dozers (up to 450 hp)	78 to 82
Grader (300 hp)	80
Diesel Trucks (100 to 400 hp)	72 to 81
Backhoe (85 hp)	76
Forklift (40 hp)	75
Air Compressor (25 hp or 230 hp)	75 or 80
Generator (22 hp or 550 hp)	73 or 85 @ rated hp

These construction activities will increase noise levels for a short duration, but will cease once construction activities are complete. Further, the noise from construction operations are not expected to exceed the operational noise from blasting and mining operations on-site.

In general, given ambient noise levels near the affected facility, noise attenuation (there is a six dBA drop in noise levels per doubling of distance), and compliance with local noise ordinances,

potential construction noise impacts are not expected to be significant. Substantial construction is only expected from building enclosures around the storage piles. Based on review of plot plans, the closest storage piles are over 300 feet from the property line. Assuming the noise levels from Table 2-5 are valid at 30 feet, and the noise attenuation factor of a six dBA drop in noise levels per doubling of distance; at 300 feet the noise from the construction equipment would be below the noise standards and requirements on Tables 2-3 and 2-4 (85 dBA – (10 x 6 dBA) ≈ 25 dBA).

The proposed project affects one existing facility and would not generate excessive noise levels outside the boundaries of the affected facility, or expose people residing or working in the project area to excessive noise levels. The proposed project requires no additional equipment to the existing facilities which would cause noise level to exceed ambient levels.

Operation-Related Noise

No provisions of the proposed amended rule would expose persons to noise levels in excess of standards established in local general plans or ordinances, or standards of other agencies because PAR does not impose additional requirements on the manufacturing of cement. The net effect of the proposed amended rule would require enclosing clinker storage at one cement manufacturing operation in the district. The proposed amended rule does not require the addition of any structure, building or facility that would expose people to groundborne vibration or noise, or increase ambient noise levels during operation (either temporary or permanent). TXI and CPCC are located in industrial areas and currently use heavy duty trucks and equipment. Since heavy-duty trucks and material handling systems are currently used at the affected facility, PAR 1156 is not expected to increase noise levels over to existing baseline noise.

No additional equipment is expected to be need during operations from the implementation of PAR 1156. PR 1156 is expected to reduce the amount of heavy-duty trucks during operations. The enclosure of clinker storage would reduce the amount of chemical dust suppressant needed, which would reduce the number of truck trips to deliver chemical dust suppressants. Therefore, noise from operation with PR 1156 requirements is not expected to be substantially different than the existing setting.

e) & f) Additional structures may be required as part of the proposed project to enclose storage piles at one affected facility. Neither facility is within two miles of an airport and, as a result, the proposed amended rule is not anticipated to generate noise at either affected facility that would affect any way airport land use plans or private airstrips. Therefore, construction of fugitive dust control is not expected to affect airport land use plans or private air strips.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on noise are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts of the proposed project on population and housing would be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse population and housing impacts from the current rule would not be significant.

a) through c) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. No provision of the proposed amended rule induces growth either directly or indirectly; or displaces any housing or substantial numbers of people, requires the construction of replacement housing.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on population and housing are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

SIGNIFICANCE CRITERIA

- Impacts on public services would be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse public service impacts from the current rule would not be significant.

a) & b) The net effect of the proposed amended rule would be enclose clinker storage at cement manufacturing operations in the district. The proposed project does not involve the use of hazardous materials so no impacts to emergency responders, such as local fire or police departments, are anticipated. Similarly, the proposed project would not be expected to affect in any way service ratios, response times or other emergency responder performance objectives.

c), d) & e) No provision of the proposed amended rule requires the use of public services such as schools, parks or other public facilities. As indicated in the "Population and Housing" discussion, there are no provisions in the proposed amended rule that would induce population growth, which would require construction of additional schools, parks, or other recreational resources. As a result, it is not expected that the proposed project would cause or require

physically altered public facilities. Further, enforcement activities required by PAR 1156 would be carried out by SCAQMD inspectors as part of their normal duties.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on public services are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

SIGNIFICANCE CRITERIA
The impacts to recreation would be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse recreation impacts from the current rule would not be significant.

a) and b) The net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. Because the proposed project is not expected to induce or redirect population growth, no provisions of the proposed amended rule would increase the need for additional parks or other recreational facilities, or cause the deterioration of existing facilities. The proposed amended rule does not require the development or construction of new recreational facilities or require the expansion of existing recreational facilities, which could have an adverse effect on the environment.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on recreation are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

SIGNIFICANCE CRITERIA

The proposed project impacts on solid/hazardous waste would be considered significant if the following occur:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse solid/hazardous waste impacts from the current rule would not be significant.

a) and b) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. No provisions of the proposed project involve, or require, solid waste disposal activities. As a result, no impacts on landfill capacity are expected. Implementation of the proposed amended rule would not impede or hinder in any way compliance with any applicable federal, state or local statutes related to solid or hazardous waste disposal.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on solid and hazardous waste are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☑
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts on transportation/traffic would be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

- A major roadway is closed to all through traffic, and no alternate route is available.
- There is an increase in traffic (e.g., 350 heavy-duty truck round-trips per day) that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse transportation/traffic impacts from the current rule would not be significant.

(a), (b) & (f) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. The enclosure would not increase operational truck trips, but would actually reduce truck trips since chemical dust suppressants would not be needed after clicker storage is enclosed. All adverse impacts would occur during construction from construction worker, haul truck and delivery truck trips to and from each site. The "worst-case" would require 30 two-way trips per day to deliver material as a part of construction of enclosures at the facility. Approximate 12 worker trips are expected from construction of the enclosures. These construction trips would not be significant because so few trips would be not appreciable change the LOS ratings or affect volume-to-capacity ratios at nearby intersections, and the construction periods would be short in duration.

c) There are no requirements in the proposed amended rule which would affect air traffic patterns because the proposed project does not involve transport of any individuals or materials by plane. Further, as noted in the preceding discussion, the proposed amended rule does not generate an increase in traffic levels or a change in location that results in substantial safety risks to local airports or airstrips. The nearest air fields are Norton Air Force Base, (Rialto Municipal Airport and FLABOB Airport) are all over six miles away from CPCC.

d) & e) There are no provisions in the proposed amended rule that require construction of design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment) that could create traffic hazards or result in inadequate emergency access, transportation/traffic design features, emergency access, or parking capacity.

Further, the proposed amended rule would not create an inadequate emergency access situation or inadequate parking capacity situation. There are no requirements in the proposed amended rule which would affect adopted policies, plans, or programs supporting alternative transportation. The proposed amended rule is intended to reduce PM fugitive dust emissions from one cement manufacturing facility.

Based on the above discussion, the proposed amended rule is not expected to generate a substantial number of new vehicle trips and therefore would not have a significant adverse impact on the transportation systems within the district.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on transportation/traffic are not significant.

Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☑	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐

DISCUSSION

The 2005 Final EA for PR 1156 concluded that except for construction air quality impacts the mandatory findings of significant from the current rule would not be significant.

(a) The proposed project would require construction of clinker storage enclosures. However, as stated in the other sections of the checklist the proposed amended rule is not expected to have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. In general, the net effect of the proposed amended rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities in the district. In particular, PAR 1156 would extend dust control requirements for clinker storage at one cement manufacturing facility in the district. The proposed amended rule would enhance the clarity and enforceability of existing fugitive dust

rules to reduce PM emissions in the district. The only affected facility is an existing cement manufacturing facility, which has been previously graded, such that the proposed project is not expected to extend into environmentally sensitive areas, disturb riparian habitat, affect habitat conservation plans, etc. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project presented in the 2005 Final EA for PAR 1156 are the same, SCAQMD staff will rely upon the Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

(b) The Environmental Checklist indicates that the proposed project has potentially significant adverse impacts on air quality during construction activities to comply with PAR 1156. The potential for project-specific and cumulative impacts on these resources are the same as those evaluated for the adopted project in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. The 2005 Final EA for PR 1156 was certified by the Governing Board on November 4, 2005 during their Public Hearing Board Meeting. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project presented in the 2005 Final EA for PAR 1156 are the same, SCAQMD staff will rely upon the Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

(c) The proposed project may result in significant adverse emissions of regulated air pollutants during construction at the one affected facility. The potential for these impacts to have adverse impacts on human beings, either directly or indirectly, is the same as those evaluated in the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. The 2005 Final EA was certified by the Governing Board on November 4, 2005 during their Public Hearing Board Meeting. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project evaluated in the 2005 Final EA for PR 1156 are the same, SCAQMD staff will rely upon the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

APPENDIX A

ABBREVIATIONS AND ACRONYMNS

Abbreviations and Acronyms

Abbreviation/Acronym	Description
µ	Micro
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
Basin	South Coast Air Basin
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO2	Carbon dioxide
CWA	Clean Water Act
dB	Decibel
dBA	Decibel A-weighted
EA	Environmental Assessment
EF	Emission factor
ERPG	Emergency Response Planning Guideline
GHG	Greenhouse gases
HP	Horsepower
IS	Initial Study
k	PM aerodynamic diameter constant
lb	Pound
M	Meter
MDAB	Mojave Desert Air Basin
MWD	Metropolitan Water District
NO2	Nitrogen dioxide
NOx	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PM	Particulate matter
PM10	Particulate matter less than 10 microns in aerodynamic diameter
PPHM	Parts per hundred million
PPM	Parts per million
PAR	Proposed Amended Rule
PR	Proposed Rule
S	Surface material silt content
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
sL	Silt loading
SO2	Sulfur dioxide
SOx	Sulfur oxides
SSAB	Salton Sea Air Basin
TAC	Toxic Air Contaminant
UBC	Uniform Building Code
USEPA	United States Environmental Protection Agency
VMT	Vehicle miles traveled
VOC	Volatile organic compound
W	Mean vehicle weight

APPENDIX B

PROPOSED AMENDED RULE 1156

APPENDIX C

ASSUMPTIONS AND CALCULATIONS

Table C-1
CO2 Emissions from Excavation for Enclosure

		Construction Activity		
One Acre		Excavation	15,624	Cubic Feet[a]
Site Preparation Schedule -	**3**	**days[a]**		

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Excavators	1	7.0	5
Tractors/Loaders/Backhoes	1	7.0	

Construction Equipment Emission Factors

Equipment Type[b]	**CO2** lb/hr
Excavators	120
Tractors/Loaders/Backhoes	67

Fugitive Dust Stockpiling Parameters

Silt Content[c]	**Precipitation Days[d]**	**Mean Wind Speed Percent[e]**	**TSP Fraction**	**Area (acres)[f]**
6.9	10	100	0.5	0.06

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[g]	**Mean Wind Speed[h]** mph	**Moisture Content[e]**	**Dirt Handled[a]** cy	**Dirt Handled[i]** lb/day
0.35	10	7.9	193	160,742

Table C-1 (Continued)
CO2 Emissions from Excavation for Enclosure

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[j]	1.1
Heavy-Duty Truck[k]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	5	20
Haul Truck[l]	2	40
Water Truck[m]	3	0.5

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Excavators	837
Tractors/Loaders/Backhoes	468
Total	**1,305**

Table C-1 (Concluded)
CO2 Emissions from Excavation for Enclosure

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	220
Haul Truck	674
Water Truck	13
Total	**906**

Total Incremental Emissions from Construction Activities

Sources	**CO2** lb/day
On-site Emissions	**2,211**

Notes:

a) Estimated for one-acre dome, excavation 10 feet below grade by three feet wide. 2002 RSMeans Building Construction Cost Data, 15th Annual Western Ed. ~ 0.04 hr/cft productivity for concrete block foundation wall. (15,624 cft x 0.04 hr/cft)/(27 cft/cyd x 8 hr/day) = 3 days

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) USEPA, AP-42, Jan 1995, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations

d) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993

e) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.

f) Assumed storage piles are 0.06 acres in size

g) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

h) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

i) Assuming 0,193 cubic yards of dirt handled [(0,193 cyd x 2,500 lb/cyd)/3 days = 160,742 lb/day]

i) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

k) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

l) Assumed 30 cubic yd truck capacity for 0,193 cyd of dirt [(0,193 cyd x truck/30 cyd)/3 days = 2 one-way truck trips/day]. Multiple trucks may be used.

m) Assumed six foot wide water truck traverses over 15,624 square feet of disturbed area

n) SCAQMD Regional Significance Thresholds

Table C-2
CO2 Emissions from Construction of Enclosure

	Construction Activity
One Acre	Enclosure Construction
Construction Schedule	

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	2	7.0	12
Cranes	2	7.0	
Rough Terrain Forklifts	1	7.0	
Cement and Mortar Mixers	2	7.0	
Generator Sets	1	7.0	
Electric Welders	2	7.0	

Construction Equipment Combustion Emission Factors

	CO2
Equipment Type[b]	lb/hr
Forklifts	54
Cranes	129
Rough Terrain Forklifts	70
Cement and Mortar Mixers	7.2
Generator Sets	61
Electric Welders	N/A

Construction Vehicle (Mobile Source) Emission Factors

	CO2
	lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Table C-2 (Continued)
CO2 Emissions from Construction of Enclosure

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	12	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	762
Cranes	1,801
Rough Terrain Forklifts	492
Cement and Mortar Mixers	101
Generator Sets	427
Electric Welders	N/A
Total	**3,583**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	528
Flatbed Truck	1,347
Water Truck	35
Total	**1,911**

Table C-2 (Concluded)
CO2 Emissions from Construction of Enclosure

Total Incremental Combustion Emissions from Construction Activities

	CO2
Sources	lb/day
On-Site Emissions	**5,494**

Notes:

a) Based on discussions with dome manufactures.

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-3
CO2 Emissions from Miscellaneous Construction (Covering Transfer Points)

Example	**Construction Activity**
Two Acre Site	Miscellaneous Construction

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	2	7.0	4
Rough Terrain Forklifts	2	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Forklifts	54
Rough Terrain Forklifts	70

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	4	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-3
CO2 Emissions from Miscellaneous Construction (Concluded)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	762
Rough Terrain Forklifts	984
Total	**1,745**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	176
Flatbed Truck	1,347
Water Truck	35
Total	**1,559**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**3,304**

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form

	Construction Activity
One Acre	Three Sided Enclosure Construction - Panel Forms

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Rough Terrain Forklifts	1	7.0	8
Cement and Mortar Mixers	2	7.0	
Generator Sets	1	7.0	
Electric Welders	2	7.0	

Construction Equipment Combustion Emission Factors

	CO2
Equipment Type[b]	lb/hr
Rough Terrain Forklifts	70
Cement and Mortar Mixers	7
Generator Sets	61
Electric Welders	N/A

Construction Vehicle (Mobile Source) Emission Factors

	CO2
	lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	8	20
Flatbed Truck[a,e]	2	40
Water Truck[f]	3	1.4

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form (Continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Rough Terrain Forklifts	492
Cement and Mortar Mixers	101
Generator Sets	427
Electric Welders	N/A
Total	**1,020**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	352
Flatbed Truck	674
Water Truck	35
Total	**1,061**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**2,081**
Significance Threshold[g]	***N/A***
Exceed Significance?	

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form (Concluded)

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Concluded)

Example	**Construction Activity**
One Acre	Three Sided Enclosure Construction - Tilt-up Panels

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Cranes	1	7.0	6
Generator Sets	1	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Cranes	129
Generator Sets	61

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	6	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

	CO2
Equipment Type	lb/day
Cranes	901
Generator Sets	427
Total	**1,328**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

	CO2
Vehicle	lb/day
Passenger Vehicles	264
Flatbed Truck	1,347
Water Truck	35
Total	**1,647**

Total Incremental Combustion Emissions from Construction Activities

	CO2
Sources	lb/day
On-Site Emissions	**2,974**
Significance Threshold[g]	***N/A***
Exceed Significance?	

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Concluded)

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-6
CO2 Emissions from Enclosed Conveyor Construction

Example	**Construction Activity**
Two Acre Site	Enclosed Conveyor Construction

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	1	7.0	4
Cranes	1	7.0	6
Rough Terrain Forklifts	1	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Forklifts	54
Cranes	129
Rough Terrain Forklifts	70

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	4	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-6
CO2 Emissions from Enclosed Conveyor Construction (Concluded)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	381
Cranes	901
Rough Terrain Forklifts	492
Total	**1,773**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	176
Flatbed Truck	1,347
Water Truck	35
Total	**1,559**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**3,332**

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-7
Summary of CO2 Emissions

Description	No. of Trips per Day	Length of Round Trip, mile	CO2 Emission Factor, lb/mile	CO2, lb/year	CO2, metric tons/year
Rule 1156	9	40	4.21	131,400	72
Alternative C	1	40	4.21	14,600	8

Number of trips per day and length of round trip were taken from the Final EA for PR 1156, Nov. 2005.
CO2 emission factor - http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls.

Table C-8
Summary of CO2 Emissions

Sources	CO2 lb/day	CO2 lb/year	CO2 ton/year
Construction of a Dome			
Phase I - Excavation Emissions	2,211	6,633	3.3
Phase II - Dome Construction Emissions	5,494	483,454	242
Maximum Dome Emissions	**5,494**	**490,087**	245
Construction of a Three-Sided Enclosure			
Phase I - Excavation Emissions	2,211	6,633	3.3
Phase II - Concrete Pouring Emissions	2,081	49,951	25
Phase III - Panel Tilt-up Emissions	2,974	2,974	1.5
Maximum Three-Sided Enclosure Emissions	**2,974**	**59,559**	**30**
Miscellaneous Construction	**3,304**	**436,154**	**218**
Enclosing Crusher	**2,974**	**14,871**	**7.4**
Enclosing Conveyors	**3,332**	**439,840**	**220**

Dome excavation activities assumed to occur over three days to trench for retaining walls.
Dome construction would assumed to over four months based on discussions with dome contractor.
Three-sided enclosure excavation assumed to occur over three days.
Concrete pouring operations assumed to occur over 24 days for foundation and 20 foot enclosure for one acre area.
Panel tilt-up assumed be completed in one day.
Miscellaneous construction assumed to occur over six months.
Enclosing crusher assumed to occur over one week
Enclosing conveyors assumed to occure over six months.

Proposed Project

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Construction of Two Full Enclosures	10,988	980,175	539	980,175	539
Three Three-Sided Enclosures	8,923	178,676	98	178,676	98
Miscellaneous Construction	6,608	872,309	480	872,309	480
Operational Emissions	1,516	3,032	1.7	3,032	1.7
Maximum Emissions	**28,035**	**2,034,191**	**1,119**	**2,034,191**	**1,119**

Alternative B

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Four Three-Sided Enclosures	11,897	238,234	131	238,234	131
Miscellaneous Construction	6,608	872,309	480	872,309	480
Operational Emissions	1,516	3,032	1.7	3,032	1.7
Maximum Emissions	**20,021**	**1,113,574**	**612**	**1,113,574**	**612**

Alternative C

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Construction of 15 Domes (Five Simultaneously)	27,469	4,900,874	2,695	7,351,311	4,043
Construction of Crusher Enclosure	2,974	14,871	8.2	14,871	8.2
Construction of Enclosed Conveyors	6,664	879,680	484	879,680	484
Miscellaneous Construction	6,608	1,744,618	960	1,744,618	960
Operational Emissions	168	337	0.19	674	0.37
Maximum Daily Emissions	**43,716**	**7,540,043**	**4,147**	**9,990,480**	**5,495**

Construction of 15 domes is expected to occur over two years with five domes built simultaneously.
Assumed that conveyors can be enclosed within six months.
Assumed that miscellaneous construction occurs over one year.

The criteria emissions from Alternative D in the 2005 Final EA for PR 1156 are the same as for the adopted project. This is assumed to be the same for CO2 emissions.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study for:

Proposed Amended Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

July 11, 2008

SCAQMD No. 080711JK

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CHAPTER 1 - PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Background and Objectives

Project Description

Control Options

Alternatives

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3].

The area of jurisdiction under the SCAQMD exceeds state and federal ambient air quality standards for PM10 (defined as particulate matter with an aerodynamic diameter of 10 microns or less). These microscopically fine particles can originate from a variety of area sources, both natural and man-made, and from a variety of stationary source processes, which include direct emissions (referred to as primary PM10) and atmospheric chemical reactions that convert gases to particles (referred to as secondary PM10). Approximately one-third of the ambient PM10 concentrations are a result of soil dust entrainment, commonly referred to as fugitive dust[4].

Rule 1156 implemented a portion of the 2003 AQMP control measure BCM-08 – Further Emission Reductions of Particulate Emissions from Cement Manufacturing Facilities. Cement manufacturing facilities are defined as any facility engaged in producing Portland cement or associated products. Two facilities in the Basin are regulated by the proposed amended Rule 1156, California Portland Cement Co. (CPCC) and TXI Riverside Cement (TXI).

Elevated ambient concentrations of hexavalent chromium (hex chrome) in the Rubidoux area of Riverside were discovered through the sampling efforts of the Multiple Air Toxic Study III (MATES III). Extensive additional sampling and modeling indicate that these emissions can be traced back to TXI located in the City of Riverside. Air monitoring around CPCC and TXI facilities will continue. SCAQMD staff proposes amendments to Rule 1156 to further reduce particulates, including hex chrome.

The proposed rule amendment would require the total enclosure of clinker material storage instead of allowing a menu of compliance options, as is the case for the current rule. In addition, the proposed amendments would amend an exemption relative to evaluating material size in open storage piles and exclude clinker material from such an exemption.

On June 24, 2008, SCAQMD and TXI entered into a settlement agreement in response to an enforcement action against TXI. Under the terms of the settlement agreement, TXI will pay one million dollars and implement measures to reduce dust emissions from clinker storage piles. TXI will remove all open clinker storage piles by November 30, 2008. Since clinker

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).
[2] Health & Safety Code, §40460 (a).
[3] Health & Safety Code, §40440 (a).
[4] SCAQMD, Board Package for Proposed Rule 403, Agenda No. 38, April 2, 2004.

storage will end because of the settlement agreement before the proposed amended rule would be presented to the Governing Board for consideration, it was assumed that TXI would not be affected by the provisions of PAR 1156. As a result, implementing PAR 1156 would not generate any secondary environmental impacts at the TXI facility. All of the analysis focuses on adverse impacts from CPCC.

For the analysis of this proposed project (see Chapter 2), it was estimated that CPCC would need to build two one-acre full enclosures for clinker storage.

Throughout this document, references to the proposed project or PAR 1156 are used interchangeably.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1156 is a "project" as defined by the California Environmental Quality Act (CEQA). CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the SCAQMD's Governing Board, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures when an impact is significant.

California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of Resources Agency on March 1, 1989 and is codified as SCAQMD Rule 110. Pursuant to Rule 110 (the rule which implements the SCAQMD's certified regulatory program), SCAQMD prepared Final Environmental Assessment (EA) to evaluate potential adverse impacts from PAR 1156.

The Final EA for Proposed Rule (PR) 1156 (SCAQMD No. 050307JK) dated October 13, 2005, was certified by the Governing Board on November 4, 2005 at their Public Hearing Board Meeting. The 2005 Final EA identified construction emissions as significant for air quality. Because the full enclosure of storage piles was one of several options for reducing fugitive dust emissions from storage piles in PR 1156, the adverse impacts of constructing a full one acre concrete dome enclosure at each facility was evaluated in the 2005 Draft EA for PR 1156. During the public comment period it was determined that neither facility would build an enclosure, but the analysis for the enclosures was retained in the 2005 Final EA for PR 1156 because it was more conservative. Alternative C – Full Enclosures evaluated the enclosure of all storage piles at both facilities, which was estimated to be 15 enclosures.

PAR 1156 would require that clinker storage piles be fully enclosed. Under the proposed project, two full enclosures would be required to be constructed at CPCC. The adverse impacts from constructing the one full enclosure at two facilities or two full enclosures at one facility would be the same. Since the only significant adverse impacts from the proposed project are from enclosing storage piles and the number of enclosures expected

from the proposed project are the same as the worst-case evaluated in the 2005 Final EA for PR 1156, the adverse impacts from the proposed project would be the same as those disclosed in the 2005 Final EA for PR 1156.

Since the general environmental setting, the significant adverse impacts and alternatives, and the mitigation measures related to each significant effect of the proposed project and the 2005 Final EA are similar, SCAQMD staff will rely upon the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK). This Initial Study was prepared pursuant to CEQA Guidelines §15153(a)(1). The 2005 Final EA for PR 1156 will be circulated for a 45-day public comment period as required by CEQA Guidelines §15153(b) and responses to comments will be prepared pursuant to CEQA Guidelines §15153(c).

While the proposed project was selected by the Governing Board, as stated in the 2005 Final EA for PR 1156, the Governing Board could have chosen to adopt any of the alternatives in whole or in part in place of the proposed project, based on other considerations in addition to environmental concerns such as compliance costs, effects on future employment (jobs lost, for example), etc. Therefore, the Governing Board could have chosen Alternative C or an option similar to the proposed project that would enclose only clinker storage piles. The Governing Board still has the opportunity to select all or part of any of the alternatives in the 2005 Final EA for PR 1156.

The CEQA Guidelines §15153 allow the use of an EIR prepared in connection with an earlier project to apply to a latter project, if the circumstances of the projects are essentially the same. When a Lead Agency proposes to use an EIR from an earlier project as the EIR for a separate latter project, the Lead agency is required to review the proposed project with an Initial Study, using incorporation by reference, if necessary to determine whether the EIR would adequately describe the environmental setting of the project, significant environmental impacts of the project, and alternatives and mitigation measures related to each subsequent effect.

The SCAQMD, as Lead Agency for the proposed project, has prepared this Initial Study (which includes an Environmental Checklist) pursuant to CEQA Guidelines §15153(a)(1). The Environmental Checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. Based on this Initial Study, SCAQMD staff has determined that it is appropriate to use the previous 2005 Final EA for PR 1156 as the Draft EA for this proposed project.

Written comments on the scope of the environmental analysis and possible project alternatives in the 2005 Final EA for PR 1156 received by the SCAQMD during the 45-day public review and comment period will be considered (if received by the SCAQMD during the 45-day public review period) when the 2005 Final EA for PR 1156 is recirculated.

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin

(MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

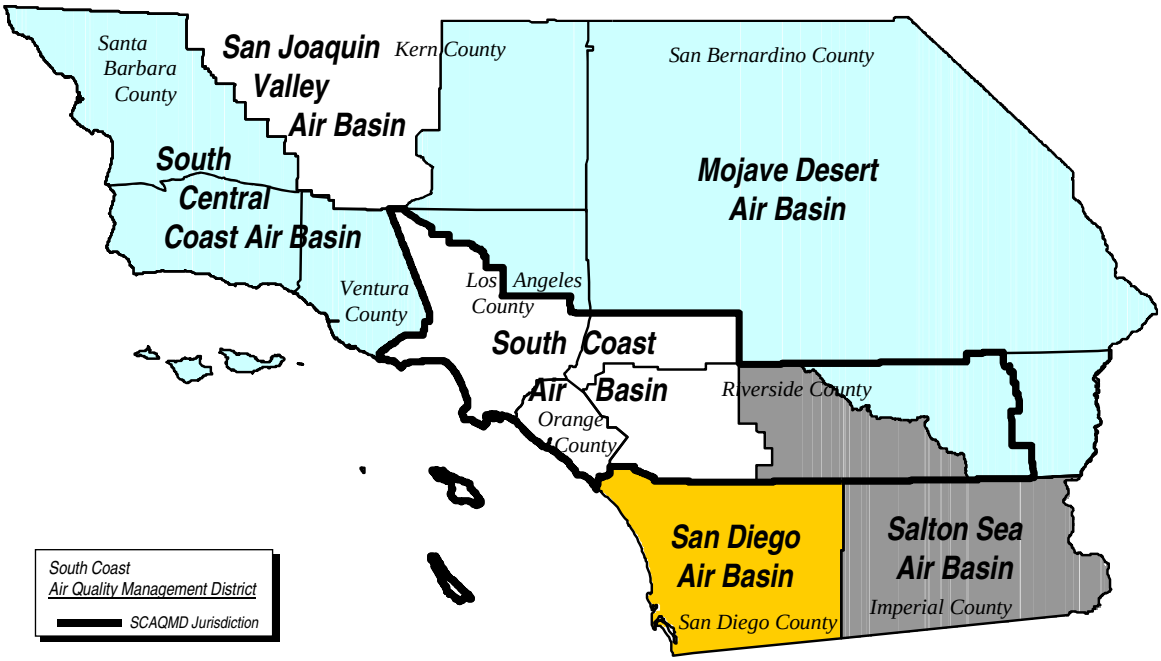

Figure 1-1
South Coast Air Quality Management District

PROJECT BACKGROUND AND OBJECTIVES

Rule 1156 implemented a portion of the 2003 AQMP control measure BCM-08 – Further Emission Reductions of Particulate Emissions from Cement Manufacturing Facilities. Cement manufacturing facilities are defined as any facility engaged in producing Portland cement or associated products. Two facilities in the Basin are regulated by the PAR 1156, CPCC and TXI.

Elevated ambient concentrations of hex chrome in Rubidoux were discovered through the sampling efforts of MATES III. Extensive additional sampling and modeling indicate that these emissions can be traced back to TXI located in Riverside. SCAQMD staff proposes amendments to Rule 1156 to further reduce particulates, including hex chrome. Air monitoring around CPCC and TXI facilities will continue.

Adoption of PAR 1156 would ensure further reduction of particulate matter, which includes chromium (also a particulate), from cement manufacturing facilities by ensuring that fugitive dust emissions from clinker material storage are minimized.

PROJECT DESCRIPTION

PAR 1156 would reduce fugitive PM and associated hex chrome emissions by requiring the enclosure of clinker. The exemption for storage piles based on particle size would be modified to exclude clinker from the exemption. Specific collection criteria would be added to the storage pile sample requirements in the storage piles exemption.

The following subsections briefly summarize the main components of PAR 1156. For the complete text of the proposed amended rule, please refer to Appendix B.

Proposed Amended Rule 1156

Purpose
No changes to the purpose of the existing rule are proposed.

Applicability
No changes to the applicability of the existing rule are proposed.

Definitions
No changes to the definitions in the existing rule are proposed.

Requirements
Currently in Rule 1156, operators of a cement manufacturing facility are required to enclose their open storages of clinker if the storage piles exceed four acres or 80,000 tons per month throughput.

Under the proposal, operators of a cement manufacturing facility would be required to enclose clinker storage piles, regardless of size, by March 1, 2009 in order to further reduce particulate matter emissions. The enclosure must also meet the requirements for an air pollution control device.

Monitoring and Source Testing
No changes to the applicability of the existing rule are proposed.

Recordkeeping Requirements
No changes to the applicability of the existing rule are proposed.

Source Test Methods and Calculation
No changes to the applicability of the existing rule are proposed.

Exemptions
Currently, operators of a manufacturing facility can be exempt from storage pile requirements of enclosure or three-sided barrier, or from using the AQMD Rule 403 test methods for the demonstration of a pile's surface stabilization if the materials contained in 90 percent of the pile's volume are larger than half an inch.

Under the proposal, this would change to a mass basis and would exclude clinker material. Therefore, operators who have open piles containing materials other than clinker would be exempt from the above mentioned requirements if the materials contained in 90 percentage of the pile's mass are larger than ½ inch. The criterion must be achieved through measurement on any composite sample of at least 10 pounds taken at a minimum depth of 12 inches below the pile surface, and at various locations of the pile, but not within 12 inches from the base, to ensure adequate sampling.

Alternative Control Options
No changes to the applicability of the existing rule are proposed.

CONTROL OPTIONS

Emissions from open storage piles or material handling, including loading/unloading activities and open conveying systems are affected by many factors such as material type, size and characteristics, moisture content, process throughput, operating practices, topographical and climatic factors.

Wet suppression, either by the application of water, chemicals and/or foam watering is currently used at the facilities. However, its control effectiveness (i.e. as long as surface moisture is high enough to cause the fines to adhere to the larger rock particles) depends upon variables that are changeable such as local climate conditions and source properties, variables that are not easy to verify such as frequency of applying wet suppression or operator practices. Therefore, wet suppression is useful mainly to reduce emissions that cannot be contained such as emissions from vehicle traffic and re-entrainment. Even with these fugitive emissions, wet suppression typically has only a temporary effect, and its control efficiency is very subjective.

Enclosing open piles and conveying systems blocks the wind and provides permanent control and containment. Its control efficiency is guaranteed, easy to verify, and does not depend on factors such as climate conditions and operator practices. Coupling the enclosure with wet suppression by spraying at the opening of the enclosure eliminates nearly 95 percent of the emissions.

Enclosed conveying systems and domes for raw materials and products are installed and maintained at many cement manufacturing facilities in California such as:

- California Portland Cement in Mojave, Kern County, has a limestone enclosed storage and reclaim system;
- Lehigh Southwest Cement in Tehachapi, Kern County, has a covered quarry conveying system vented to baghouses and an enclosed storage area for five-acres of raw materials;
- National Cement in Lebec, Kern County, has 2.5 miles of covered conveyors and enclosed storage areas for raw materials and products;
- Southdown California Cement (CEMEX) in Victorville, San Bernardino County, has a primary crusher enclosed and vented to baghouse, and a permit to construct to have all outside conveyors covered;
- TXI Riverside Cement at Oro Grande, San Bernardino County, has an Mojave Desert Air Pollution Control District (MDAQMD) Permit to Construct to have all conveyors transporting materials from quarry to crushers covered; and
- In addition, Rule 1158 adopted in 1999, has required enclosed storage and enclosed conveying system for facilities that handle and use coke, coal and sulfur in the Basin.

The 1999 staff report for Rule 1158 cited several dome vendors such as Dome Systems, Plas-Steel, and Klimke & Wright LTD. Staff has contacted four additional representative vendors who manufacture and supply concrete, steel or aluminum domes for cement manufacturing facilities. Their applications are summarized in Table 1-1. Additional detail regarding dome applications can be found at the vendor's websites.

Many vendors currently provide enclosed conveyors to the cement industry. The staff report for Rule 1158 cited several vendors who supply total enclosed conveyors[5]. Staff has contacted three additional vendors for quotes including Fiberdome; Mertec Engineering which represents Cambelt International Corporation, Kollman, SGCO; and Applied Conveyor Technology which represents Martin Engineering.

ALTERNATIVES

The 2005 Final EA for PR 1156 evaluated four alternatives, Alternative A (No Project), Alternative B (Partial Enclosures), Alternative C (Full Enclosures), and Alternative D (Reduction from Baseline).

[5] These vendors supplied 1,600-foot covered conveying system for Metropolitan Stevedore, 300-foot covered conveying system for Aimcor, 390-foot covered conveying system for ARCO, 755-foot covered conveying system for Aimcor Main Barn, 1230-foot covered conveying system for ARCO Great Lake, 830-foot covered conveying system for Oxbow, and 875-foot covered conveying system for Chevron.

Table 1-1
Dome Application for Open Storage Piles

Vendor	Dome Application
Dometec	• Clinker concrete dome for Ash Grove Cement in Arkansas; • Clinker concrete dome for Essroc Materials in Michigan; • Gypsum, fly ash, and cement storage domes.
Temcor	• Limestone aluminum storage dome for California Portland Cement in Mojave California; • Limestone and cement dome for Lehigh Portland Cement and St. Lawrence Cement in Maryland; • Sand dome for Junction City in Georgia; and • Other coal and cement storage domes
Consevatek	• Cement and limestone aluminum domes for cement plants in Texas and Kansas.
Geometrica	• Clinker dome in Canada; • Gravel and copper ore domes in Mexico and Chile; • Coal and limestone aluminum and steel domes in Taiwan, Thailand, Chile and Mexico.

The four feasible alternatives to the rule presented in the 2005 Final EA are summarized in Table 1-2: Alternative A (No Project), Alternative B (Partial Enclosures), Alternative C (Full Enclosures), and Alternative D (Reduction from Baseline). A comparison of the potential air quality and hydrology/water quality impacts from each of the project alternatives with PR 1156 is given in Table 1-2. No other significant adverse impacts were identified for PR 1156 or any of the project alternatives. The proposed project and Alternatives B, C and D are significant for NOx from construction activities. No significant secondary construction emissions are anticipated from Alternative A because it is assumed PR 1156 would not be adopted. No significant operational adverse air quality impacts would be expected from operations in either the proposed project or alternatives. No other environmental topics were determined to be significant. The proposed project is considered to provide the best balance between emission reductions, the adverse air quality impacts due to construction and operation activities. Therefore, the proposed project was preferred over the project alternatives and adopted by the Governing Board.

Summaries of the Project Alternatives Evaluated in the 2005 Final EA for PR 1156

Alternative A or 'no project' means that PR 1156 would not be adopted and instead the operators would maintain their current operations without change and will continue to be subject to the following requirements:

- SCAQMD Rule 401 - Visible Emissions;
- SCAQMD Rule 404 - Particulate Matter - Concentration;
- SCAQMD Rule 405 - Particulate Matter - Weight;
- SCAQMD Rule 1112.1 - Emissions of Particulate Matter from Cement Kilns
- SCAQMD Regulation XIII – New Source Review;
- SCAQMD Regulation XXX – Title V Permits;

- Federal New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart F, *Standards of Performance for Portland Cement Plants*;
- Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart LLL, NESHAP from the Portland Cement Manufacturing Industry

Alternative A, the 'no project' alternative, does not achieve the goals of the proposed project because it does not implement the portion of Control Measure BMC-08 to further reduce PM emissions from cement manufacturing operations. While no significant adverse secondary environmental impacts would result from the 'no project' alternative, it is not the environmentally superior alternative in accordance with CEQA Guidelines §15126.6(e)(2) because PM would continue to be emitted at current levels, thus, not improving air quality in the district.

Compared to PR 1156, Alternative B, the partial enclosure alternative, has a higher baghouse performance standard (0.03 gram PM per dry standard cubic meter), does not require additional control for crushers, and does not require full enclosure of open storage piles. Like the proposed project, Alternative B would produce significant adverse NOx emissions (108 pounds of NOx per day) during construction of three-sided enclosures. The effective dates for Alternative B requirements would be one to two years longer than those of the proposed project. Alternative B does not include Continuous Emission Monitoring System (CEMS), continuous opacity monitoring systems (COMS), baghouse leak detection systems (BLDS) or operation and maintenance (O&M) procedures. The proposed project is superior to Alternative B, since it would generate greater feasible PM emissions reductions on a shorter schedule.

Alternative C, the full enclosure alterative, would require a 0.005 gram PM per dry standard cubic meter baghouse performance standard, and that operators fully enclose conveyers, crushers and open storage piles. Alternative C would allow one additional year to comply with open storage pile control to allow for the construction required to enclose all open storage piles. Secondary NOx emissions of 367 pounds per day from construction would exceed the SCAQMD's NOx construction significance threshold of 100 pounds per day.

Alternative C would achieve the greatest emission reductions. Since the open storage piles would be fully enclosed operators would not be required to water open storage piles. Alternative C also requires that only chemical dust suppressants be used for dust control. The proposed project and Alternatives B and D may require additional watering which would generate additional criteria and toxic emissions from additional combustion required to remove moisture added from watering for dust suppression. Therefore, Alternative C would be the environmentally superior and least toxic alternative. However, it is not clear if existing facilities would be able to meet the 0.005 gram per dry standard cubic meter baghouse performance standard for all baghouses. Facility operators have stated that enclosing all storage piles would prevent them from purchasing materials in bulk when available. Therefore, requiring all storage piles to be enclosed may adversely impact business decisions and operating activities at affected facilities.

Alternative D, reduction from baseline alternative, is the same as the proposed project except that operators would be allowed to reduce the overall facility baghouse baseline PM emissions by 50 percent instead of complying with individual baghouse performance standards. Facility operators requested this option in case their kiln or clinker baghouse could not meet the performance standards. Under this alternative, further reductions could be made at other baghouses to compensate for baghouses unable to meet required performance standards. This alternative would allow a similar effective date to the proposed project (three to five years) to allow facility operators to optimize baghouses to obtain the 50 percent reduction from baseline. Secondary NOx emissions from construction would be equivalent to the proposed project, which is expected to exceed the NOx significance threshold. At the request of facility operators, this alternative does not include COMS/BLDS or documented O&M procedures. Since CEMS, COMS, BLDS and documented O&M procedures are not required, verifying compliance would be more difficult than verifying compliance for the proposed project and Alternative C. The proposed project is superior to this project alternative since compliance verification would be more effective.

PAR 1156 is not expected to change the environmental analyses conclusions for any of the alternatives presented in the 2005 Final EA for PR 1156. No new alternatives were identified for PAR 1156. Finally, the SCAQMD Governing Board can choose all or part of any of the project alternatives in connection with staff's proposed modifications to Rule 1156.

Table 1-2
Summary of Rule 1156/PAR 1156 and Project Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Baghouse standards – kilns/clinker cooler (d)(4), and other equipment (d)(6)	Baghouse performance standard of 0.01 grain/dscft PM for existing equipment and 0.005 grain/dscf for new equipment with COMS/BLDS for top emitters and O&M procedures	Compliance with Rule 1112.1, 404 and 405	Baghouse performance standard of 0.03 grain/dscf without COMS/BLDS and O&M procedures	Baghouse performance standard of 0.005 grain/dscf with PM CEMS for top emitters and O&M procedures	Overall reduction 50 percent of baseline emissions without COMS/BLDS and O&M procedures
Process Equipment Loading, Unloading and Transferring (d)(2)(A) and (d)(2)(B)	Enclose loading/unloading process units and vent to baghouses; and cover existing conveyors	Same as project	Same as project	Enclose loading/unloading process units and vent to baghouses; and enclose existing conveyors	Same as project
Screening, Milling, Grinding, Blending, Drying, Heating, Mixing, Sacking, Palletizing, Packaging and Other Related Operations (d)(3)(B) and (C)	Enclose system and vent to baghouse	Compliance with Rule 403	Same as no project	Enclose system and vent to baghouse	Same as project
Crushing (d)(3)(B) and (C)	Enclose system and vent to baghouse; or wind screens with wet suppression	Compliance with Rule 403	Same as no project	Enclose system and vent to baghouse	Same as project

Table 1-2 (Concluded)
Summary of Rule 1156/PAR 1156 and Project Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Active clinker piles a) Control (d)(5)(B) b) Loading and Unloading (d)(5)(E)	a) Enclose ~~active~~ clinker storage piles ~~with a four acre area or a cumulative 12-month rolling average clinker loading and unloading (or processing) rate > 80,000 ton/year~~[a] b) Loading/unloading within enclosure	Compliance with Rule 403	a) Chemical stabilizer, or three-sided barrier with two feet of freeboard, or three - sided barrier with roof, or tarp entire surface b) Loading/unloading with dust suppressants	a) Enclose all active storage piles b) Loading/ unloading within enclosure	Same as project
Other active/ inactive piles a) Control (d)(5)(C) b) Loading and Unloading (d)(5)(E)	a) Chemical stabilizer, or three-sided barrier with two feet of freeboard, or three-sided barrier with roof, or tarp entire surface b) Loading/unloading with dust suppressants	Compliance with Rule 403	Same as project	a) Enclose all active storage piles b) Loading/ unloading within enclosure	Same as project
Chemical dust suppressant/ Watering	Water or chemical dust suppressants allowed for process and storage piles; chemical dust suppressants only for unpaved roads.	Compliance with Rule 403	Same as project	Chemical dust suppressants only	Same as project
Compliance dates	One year to meet pulse jet baghouse and active storage pile enclosure requirements, Five years to meet non-pulse jet bag requirements, and 6 months for other requirements.	Compliance with Rule 403	Eight years to meet all requirements	Two years to enclose storage piles and one year to enclose crusher	Baghouse compliance phased over three to five years

a) PAR 1156 would require the enclosure of all clinker storage. Strike out and underline showed changes between PAR 1156 and the existing Rule 1156.

Table 1-3
Comparison of Adverse Environmental Impacts of the Alternatives

Description	Rule 1156/PR 1156	Alternative A No Project	Alternative B Partial Enclosures	Alternative C Full Enclosures	Alternative D Reduction from Baseline
Air Quality Emission Reductions					
Baghouse standards – kilns/clinker cooler and other equipment	0.2 ton/day PM reduction by December 31, 2010	None	None	0.3 ton/day PM reduction by December 31, 2010	0.2 ton/day PM reduction within 5 years
Process Equipment	0.5 ton/day PM reduction by December 31, 2010	None	Same as proposed project within three years; delays required control one year longer than proposed project	0.7 ton/day PM reduction by December 31, 2010	Same as proposed project
Storage Piles	0.04 ton/day PM reduction by December 31, 2006	None	0.015 tons/day PM reduction with three years; delays required control two years longer than proposed project	0.05 ton/day PM reduction within two years; delays required control one year longer than proposed project	Same as proposed project
Vehicle Traffic	1.5 ton/day PM reduction within six months of rule adoption	Same as proposed project	Same as proposed project	Same as proposed project	Same as proposed project
Total Emission Reductions, ton/day	2.1		2.1	2.4	2.1

Table 1-3 (Conclude)
Comparison of Adverse Environmental Impacts of the Alternatives

Description	**Rule 1156/PR 1156**	**Alternative A No Project**	**Alternative B Partial Enclosures**	**Alternative C Full Enclosures**	**Alternative D Reduction from Baseline**
Construction Emissions	Significant NOx emissions at 248 lb/day over one year	None	Significant NOx emissions at 175 lb/day over three years; would allow construction emission two years longer than proposed project.	Significant NOx emissions at 367 lb/day for two years would allow construction emission one year longer than proposed project.	Same as proposed project
Secondary Operational Emissions	No significant emissions	None	No significant emissions, less than PR 1156	No significant emissions More than PR 1156	Same as proposed project
Air Quality Impacts Significant?	Yes, construction emissions	No	Yes, construction emissions	Yes, construction emissions	Yes, construction emissions
Hydrology/Water Quality Impacts Significant?	No	No	No	No	No

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed rule.

GENERAL INFORMATION

Name of Proponent:	South Coast Air Quality Management District
Address of Proponent:	21865 Copley Drive Diamond Bar, CA 91765
Lead Agency Name:	South Coast Air Quality Management District
CEQA Contact Person:	James Koizumi (909) 369-3234
Rule Contact Person:	Tuyet-Le Pham (909) 396-3299
Name of Project :	Proposed Amended Rule 1156 – Further Reduction of Particulate Emissions from Cement Manufacturing Facilities

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. Any checked items represent areas that may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agricultural Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality	☐	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation /Traffic
☐	Energy	☐	Noise	☐	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☐ I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: July 11, 2008 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor – CEQA
Planning, Rule Development, and Area Sources

GENERAL EFFECTS OF THE PROPOSED PROJECT

The net effect of the proposed amended rule would be to further reduce fugitive dust PM emissions from cement manufacturing facilities, specifically from clinker storage piles. Secondary emissions generated by construction are expected to be significant for air quality; however, adverse affects from construction of full enclosures were previously evaluated in the Final EA for Proposed Rule 1156 (SCAQMD No. 050307JK) dated October 13, 2005.

On June 24, 2008, SCAQMD and TXI entered into a settlement agreement in response to an enforcement action against TXI. Under the terms of the settlement agreement, TXI will pay one million dollars and implement measures to reduce dust emissions from clinker storage piles. TXI will remove all open clinker storage piles by November 30, 2008. Since clinker storage will end because of the settlement agreement before the proposed amended rule would be presented to the Governing Board for consideration, it was assumed that TXI would not be affected by the provisions of PAR 1156. As a result, implementing PAR 1156 would not generate any secondary environmental impacts at the TXI facility. All of the analysis focuses on adverse impacts from CPCC.

During visits to the CPCC facility, there are three clinker open storage pile areas. Two of the clinker storage piles were estimated to be 40,000 square feet (0.92 acre) each. The third storage pile is much smaller. Since enclosures are expensive, it is believed that the third smaller clinker storage pile would be combined with one of the other two larger storage piles. The combined size of all clinker storage piles on-site was estimated to be approximate two acres.

While the 2005 Final EA assumed that a full enclosure would occur at each site, the adverse impacts from building two full enclosures would have the same adverse impacts, whether the enclosures were built at each facility or at a single facility. Therefore, the analysis and the conclusions from the 2005 Final EA and the proposed project would be the same.

The exemption from the storage pile requirement of enclosure or three-sided barrier, or from using AQMD Rule 403 test methods for the demonstration of a pile's surface stabilization if the materials contained in 90 percent of the pile's volume are larger than half an inch would be altered. Under the proposed amended rule, this would change to a mass basis test and would specifically exclude clinker material. Therefore, operators who have open piles containing materials other than clinker would be exempt from the above mentioned requirements if the materials contained in 90 percentage of the pile's mass are larger than ½-inch. A new sampling methodology also would be added to PAR 1156. The measurement on any composite sample of at least 10 pounds taken at a minimum depth of 12 inches below the pile surface, and at various locations of the pile, but not within 12 inches from the base.

The enclosure of clinker storage piles is evaluated in the check list. However, the exemption is not expected to affect any other storage pile at cement manufacturing facilities. The change from volume to mass basis is not expected to subject any non-clinker storage piles to the enclosure or barrier requirements that are exempt under the existing rule. The sampling methodology is not expected to adversely impact any environmental areas. Therefore, the amendment to the exception of storage piles from enclosure or barrier requirements is not expected to generate any significant adverse impact on any environmental area and will not be analyzed further.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑

SIGNIFICANCE CRITERIA

The proposed project impacts on aesthetics would be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse aesthetic impacts from the current rule would not be significant.

a) through d) PAR 1156 would require the construction of buildings, structures or other edifices that could partially obstruct views of scenic resources. Enclosures for clinker storage piles would need to be added; however, the facility is located in an industrial area. PAR 1156 would only affect fugitive dust sources on-site of one existing facility. The proposed project would only affect one facility in the district and since the proposed project would occur on this one site, it is not expected to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. While the enclosures for the storage piles would be larger than the existing storage piles in order to cover them, the enclosures would also prevent visible dust which can obstruct or distort views of scenic resources. Additionally, there are few, if any scenic vistas or views located near the affected facility. Therefore, since the facility is in an industrial area, and proposed amended rule would

reduce visible dust; these changes to existing equipment at the existing facility would not significantly alter the visual characteristics in the vicinity of the affected facility.

PAR 1156 does not, in any way, require construction of any new cement manufacturing facilities. Adoption of the proposed amended rule would further control fugitive dust emissions in the district. Implementing the proposed amended rule may improve aesthetics by reducing dust that may obstruct or damage scenic vistas thereby improving visibility. PAR 1156 does not encourage or require night operations. However, further implementing dust control measures at night would only be necessary if an affected facility operates at night. As a result the proposed project is not anticipated to create or require any new sources of light or glare which would adversely affect day or nighttime views in any scenic areas.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on aesthetics are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

SIGNIFICANCE CRITERIA

Project-related impacts on agricultural resources would be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse agricultural resource impacts from the current rule would not be significant.

a) and c) PAR 1156 would reduce PM emissions from one cement manufacturing facility in the district. The proposed amendments do not, however, require the acquisition of any land for the construction of any building or structure, and do not require conversion of farmland to other uses. The proposed amendments would not convert any existing, prime or unique farmland to a non-agricultural use; nor would the proposed amendments cause other changes to the existing environment which would result in the conversion of any existing, prime or unique farmland to a non-agricultural use.

b) The proposed amended rule would reduce PM emissions from the one cement manufacturing facility in the district. The proposed amended rule has no effect on, and would not conflict with existing zoning or any Williamson Act contracts, because the proposed project does not require acquisition of any land that may currently be subject to a Williamson Act contract.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on agricultural resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☑	☐	☐

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☑	☐
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts will be evaluated and compared to the significance criteria in Table 2-1. If impacts equal or exceed any of the following criteria, they are considered significant.

DISCUSSION

The 2005 Final EA for PR 1156 determined that only air quality impacts from construction were significant. All other air quality impacts were determined by the 2005 Final EA to be less than significant.

Ultimately, it is the responsibility of the SCAQMD under state and federal law to reduce emissions of those substances that impair public health including primary and secondary air contaminants. Pursuant to the provisions of both the state and federal CAA, the SCAQMD is required to attain the federal ambient air quality standards for all criteria pollutants, including PM10. The SCAQMD's planning document which sets forth policies and measures to achieve federal and state air quality standards in the region is the AQMP. The AQMP strategy includes measures which target stationary, mobile and indirect sources. These measures are based on feasible methods of attaining ambient air quality standards. The proposed amended rule would obtain further PM10 emission reductions from one cement manufacturing facility, and would assist the SCAQMD in its efforts to attain state and federal PM10 air quality standards. Rule 1156 implemented control measure BCM-08 from the 2003 AQMP, PAR 1156 would further the reductions gained under Rule 1156. The direct effect of implementing PAR 1156 is a reduction in PM fugitive dust emissions by 0.0594 to 0.119 tons of PM (0.0198 to 0.0396 tons of PM10) per day (119 to 238 pounds of PM (39.6 to 79.2 pounds of PM10) per day) from enclosing clinker storage piles. The preliminary emission inventory and emission reductions are presented in Table 2-2.

Because the proposed project would further reduce PM10 emissions, which would assist in attaining ambient air quality standards, this project would not conflict with or obstruct implementation of the applicable air quality plan.

Table 2-1
Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [d]		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (federal)	
PM10 24-hour average annual arithmetic mean	10.4 $\mu g/m^3$ (construction)[e] & 2.5 $\mu g/m^3$ (operation) 20 $\mu g/m^3$	
PM2.5 24-hour average	10.4 $\mu g/m^3$ (construction)[e] & 2.5 $\mu g/m^3$ (operation)	
Sulfate 24-hour average	1 $\mu g/m^3$	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu g/m^3$ = microgram per cubic meter ≥ greater than or equal to

Table 2-2
Preliminary Emission Inventory and Emission Reductions

Equipment/Process	Inventory (ton/day)		Emission Reductions (ton/day)	
	PM	PM10	PM	PM10
Clinker Storage Piles	0.06 to 0.12	0.02 to 0.04	0.0594 to 0.119	0.0198 to 0.0396

Full enclosures are expected to reduce PM/PM10 by 99 percent.

(b), (c) and (f) While the proposed amended rule is designed to reduce PM emissions, there is the potential for adverse secondary air quality impacts associated with fugitive exhaust emissions from construction operations.

Construction Activity Impacts
PAR 1156 would result in construction impacts from the installation of two full enclosures for clinker storage at one of the two affected facilities. The other facility has entered an agreement with SCAQMD to remove all open clinker storage piles. Adverse air quality impacts from construction of two full enclosures, three three-sided enclosures and covering of transfer points were analyzed in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. While the 2005 Final EA for PAR 1156 evaluated building a single full enclosure at each affected facility, and PAR 1156 is expected to require two full enclosures at a single facility, the adverse impacts from either scenario would be the same. The following subsections describe construction activities that may occur to install dust control equipment.

Construction at New Facilities
PAR 1156 does not require construction of new cement manufacturing facilities, but in the event new cement manufacturing facilities are built, emissions from new facilities subject to PAR 1156 would be lower than emissions from new facilities not subject to PAR 1156, because new facilities would have to apply BACT as well as comply with PAR 1156 requirements. After adoption of PAR 1156, any construction of new cement manufacturing facilities would occur for reasons unrelated to PAR 1156. Like any new land use project, a new cement manufacturing facility would likely be subject to CEQA by the local land use agency and, therefore, would be required to undergo its own CEQA analysis. Therefore, this analysis does not include impacts from potential new facilities.

Existing Facilities

Construction of Clinker Storage Pile Enclosures
PAR 1156 would require operators to enclose open piles of clicker. The enclosures would require overlapping flaps, sliding doors or other equivalent devices approved by the Executive Officer, which would be required to remain closed except to allow vehicles to enter or exit.

The Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, evaluated adverse impacts from the construction of full enclosures for storage piles. The 2005 Draft EA for PR 1156 analyzed the construction of one full enclosure at each affected facility. It was determined subsequent to the public review of the Draft EA that neither facility would build an enclosure to comply with the rule. However, the adverse impacts from the full enclosures

remained in the analysis to be conservative and to cover a situation where an operator decides to fully enclose storage piles. Table 2-3 presents the emissions estimated for Rule 1156 in the 2005 Final EA from the construction related to the proposed rule, which included a full enclosure at each facility, three three-sided barriers and miscellaneous construction to cover transfer points.

Because of the anticipated number of construction equipment (approximately ten pieces), the type of equipment (cranes, rough terrain forklifts, tractors/loaders/backhoes, and generator sets), the size of the equipment, and hours of operation, construction air quality NOx impacts were determined to exceed the applicable NOx construction significance threshold. However, construction impacts are limited in duration.

Table 2-3
Total Estimated "Worst-Case" Daily Air Quality Emissions from Construction of Control Technology to Comply with PR 1156 from the 2005 Final EA[a]

Sources	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5[b] lb/day
Construction of Two Full Enclosures	48.8	11.4	99.6	7.8	5.8	5.8
Construction of Three Three-Sided Enclosures	40.8	7.5	81.0	7.8	6.0	6.0
Miscellaneous Construction	29.2	7.4	67	4.4	4.4	4.4
Maximum Daily Emissions	**119**	**26**	**248**	**20**	**16**	**16**
Significance Threshold	550	75	100	150	150	50
Exceed Significance?	No	No	Yes	No	No	No

a) From Table 4-6 of 2005 Final EA for PR 1156, except for PM2.5.
b) PM2.5 assumed to be the same as PM10 to be conservative, even though PM2.5 is actually a fraction of PM10.

Under the proposed project, cement manufacturing facility operators would be required to enclose clinker storage areas within a five month period. Based on site visits, SCAQMD staff estimates that two enclosures would be required at one affected facility. The other affected facility will not have open storage of clinker by November 2008, pursuant to a settlement agreement with the SCAQMD, and therefore, the proposed rule would not require any construction at that facility.

In the 2005 Final EA for PR 1156, emissions from the construction of three-sided enclosures were included in the analysis of the proposed rule. PAR 1156 would not affect the requirements related to non-clinker storage piles. However, since the adoption of the rule, facility operators have complied with the active open storage pile requirements by either applying chemical dust suppressants or covering the storage piles with tarps. Facility operators have told SCAQMD staff that they will continue to apply chemical dust suppressants or tarp active open storage piles rather than building three-sided enclosures. However, since the construction of three-sided enclosures were evaluated in the 2005 Final EA for PR 1156, and evaluating construction from the three-sided enclosures is more conservative than not evaluating it, no change will be made to the analysis.

The 2005 Final EA for PR 1156, evaluated emissions from the construction of covers for transfer points. PAR 1156 would not affect the requirement to cover transfer points, so PAR 1156 would not affect the analysis of covering the transfer points.

Since the proposed project would generate emissions and adverse impacts that are the same as the 2005 Final EA for PR 1156; and the Governing Board could have chosen any of the alternatives in whole or in part, the criteria emissions and associated adverse impacts were disclosed to the public in the 2005 Final EA for PR 1156.

Since emissions and adverse impacts from construction and operation pursuant to PAR 1156 are consistent with the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

Cumulative Adverse Impacts
Since the criteria emission from NOx were determined to be significant, the 2005 Final EA for PR 1156 determined that the cumulative NOx emissions would be cumulatively considerable pursuant to CEQA Guidelines §15065(a)(3). Two hundred and forty-eight pounds of NOx per day was estimated for the existing rule and 367 pounds of NOx per day was estimated for the worst-case alternative, Alternative C. NOx emissions estimated for the existing rule, as well as the NOx limits for each of the proposed projects are all above the significance threshold of 100 pounds of NOx per day. The NOx emissions from the proposed amended rule are expected to be the same as the NOx emissions analyzed for the existing rule. Since the cumulative NOx emissions from the proposed project are the same as those analyzed for PR 1156 in the 2005 Final EA, SCAQMD can rely on the cumulative analysis in the 2005 Final EA for PR 1156 as the Draft EA for the proposed project. Therefore, PAR 1156 would not alter the 2005 Final EA's conclusion of NOx cumulative significance.

Operational Activity Impacts
The adverse operational impacts from the 2005 Final EA for PR 1156 are presented in Table 2-4. The emissions are from the delivery of additional chemical dust suppressant. These criteria emissions are below the operational criteria significance thresholds. Therefore, operational emissions were expected to be less than significant.

There would be no additional adverse direct or secondary operational impacts from enclosing clinker storage at cement manufacturing facilities. Enclosing clinker storage would reduce the number of trucks that would be required to deliver and apply chemical stabilizers, since chemical stabilizers would not be required for enclosed storage piles.

Table 2-4
Total Secondary Criteria Emission Impacts from Operational Requirements in PR 1156[a]

Description	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day
Delivery Truck Trips	2.27	0.50	14.95	0.15	0.28	0.28
Significance Threshold	550	55	55	150	150	55
Significant?	No	No	No	No	No	No

a) From Table 4-8 of 2005 Final EA for PR 1156, except for PM2.5.
b) PM2.5 assumed to be the same as PM10 to be conservative, even though PM2.5 is actually a fraction of PM10.

Conclusion
The intent of the proposed amended rule is to further reduce PM10 fugitive dust emissions from cement manufacturing facilities in the district. As previously noted, the direct affect of implementing the PAR 1156 is a reduction in PM fugitive dust emissions by 0.0594 to 0.119 tons of PM (0.0198 to 0.0396 tons of PM10) per day (119 to 238 pounds of PM (39.6 to 79.2 pounds of PM10) per day). As a result of the preliminary analysis above, the proposed project may generate significant adverse air quality impacts during construction. Secondary emissions from construction activities are temporary; however, they are expected to exceed NOx significance thresholds. Operation emissions from chemical dust suppressant delivery operations are expected to be reduced, since chemical stabilizers would no longer be required for enclosed storage piles. Since emissions and adverse impacts from construction are consistent with the proposed project of the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

Toxic Emissions
Subsequent to the adoption of Rule 1156, during the preparation of the MATES III analysis, SCAQMD staff identified an upward trend of hex chrome emissions at the Rubidoux monitoring station in Western Riverside County, over two miles to the southwest of TXI. Through thorough investigation, SCAQMD staff has determined that handling and transporting grey clinker material is the primary source of hex chrome. By enclosing clinker storage piles, PAR 1156 would reduce potential hex chrome emissions. The reduction in hex chrome would result in a reduction of carcinogenic and chronic non-carcinogenic health risk at the CPCC facility in the future.

Pursuant to the Settlement Agreement between SCAQMD and TXI, the clinker storage piles would be eliminated from the site, which is expected to eliminate exposures to hex chrome emissions.

PAR 1156 would reduce the amount of chemical dust suppressant, since enclosed clinker storage piles would not require chemical dust suppressants, because enclosures are considered fugitive dust control. This would reduce the number of truck trips to deliver and apply the chemical dust suppressants. The reduction in truck trips would result in a reduction of carcinogenic and chronic non-carcinogenic health risk from diesel exhaust particulates.

Neither hex chrome nor diesel particulate has been identified as an acute non-carcinogenic health risk; therefore, there would be no expected change to acute non-carcinogenic health risk.

Greenhouse Gases

Greenhouse gases (GHG) emissions were not evaluated in the 2005 Final EA for PR 1156. At the time the 2005 Final EA for PAR 1156 was prepared, GHG emission analysis methodologies had not been developed. The analysis is included here for completeness.

In addition to criteria pollutant emissions, combustion processes generate GHG emissions that have the potential to affect global climate. The following GHG analysis focuses on CO2 emissions because this is the primary GHG pollutant emitted during the combustion process and is the GHG pollutant for which emission factors are most readily available. U.S. Department of Energy, Energy Information Administration factors were used to determine carbon dioxide (CO2) emission factors. Other GHGs are emitted, but a complete set of emissions factors are not available; therefore, only CO2 was analyzed.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO2 is approximately 100 years, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. Further, the action of GHGs is global in nature, rather than local or even regional. As a result, GHG emission impacts are considered to be cumulative impacts rather than project-specific impacts.

Typical GHG emission inventories (EPA[6], ARB[7], etc.) present directly emitted GHGs during a given year. Table 2-5 presents CO2 emissions from the proposed project, which would be the same as the emissions from the adopted PR 1156 project and alternatives. Detailed calculations of the CO2 emissions are included in Appendix C.

In the absence of a specific significance threshold, SCAQMD staff has evaluated significance for projects where it is the lead agency on a case-by-case basis. In this analysis, SCAQMD staff has used a variety of benchmarks to evaluate GHG impacts. As additional information is compiled with regard to the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

[6] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, http://www.epa.gov/climatechange/emissions/downloads06/07CR.pdf, April 15, 2007

[7] ARB, Statewide Greenhouse Gas (GHG) Emissions Inventory 1990 to 2004, http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm.

Table 2-5
Worst-Case Annual CO2 Construction Emissions Resulting from PAR 1156

Description	CO2, metric ton/yr
Proposed Project (equivalent to PR 1156 Adopted Project)	1,119
Alternative A (No Project)	-
Alternative B (Partial Enclosure)	612
Alternative C (Full Enclosures)	4,147
Alternative D (Reduced Baseline)	1,119

The proposed project and Alternatives B and D could be completed in a single year. Alternative C would require two years to complete. Alternative A is the no project alternative, which would not generate any new emissions. The values presented in this table represent the worst-case year. After construction is completed CO2 emissions would be reduced to only the operational emissions, which is 1.7 metric tons per year for the proposed project and Alternatives B and D, and 0.37 metric ton per year for Alternatives C. There are less operational emissions from Alternative C, because all of the storage piles are fully enclosed.

In its *CEQA & Climate Change* document (January, 2008), CAPCOA identifies many potential GHG significance threshold options. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while also setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons per year, which was considered by the Market Advisory Committee for inclusion in a greenhouse gas cap and trade system in California. Another potential threshold identified by CAPCOA is 25,000 metric tons per year, which is CARB's mandatory reporting threshold under AB 32. GHG emissions in the year 2014 from PAR 1156 would be lower than both of these reporting thresholds.

Finally, another approach to determining significance is to estimate what percentage of the total inventory of GHG emissions are represented by emissions from a single project. If emissions are a relatively small percentage of the total inventory, it is possible that the project will have little or no effect on global climate change. According to available information, the statewide inventory of CO2eq. emissions is as follows: 1990 GHG emissions equal 427 million metric tons of CO2eq. and 2020 GHG emissions equal 600 million metric tons of CO2eq. with business as usual. Interpolating an inventory for the year 2008 results in 531 million metric tons of CO2eq. CO2 emissions in from the project of 1,119 metric tons from PAR 1156 represent 0.00026 percent of the statewide GHG inventory in 2008. The worst-case from Alternative C is 4,147 metric tons, which is 0.00097 percent of the statewide GHG inventory in 2008. CO2 emissions from the proposed project and alternatives are presented in Table 2-6. This small percentage of GHG emissions compared to the total projected statewide GHG emissions inventory is another basis for the SCAQMD's conclusion that GHG emissions from implementing PAR 1156 or the alternatives is less than significant.

Table 2-6
Comparison of Proposed Amended Rule 1156 CO2 Emissions to the 2008 Statewide CO2 Emissions

	PAR 1156 CO2 Emissions (metric ton/yr)	2014 Statewide CO2 Emissions (million metric ton/yr)	Percentage of PAR 1156 to Statewide CO2 emissions
Proposed Project (equivalent to PR 1156 Adopted Project)	1,119	427	0.00026
Alternative A	-	427	-
Alternative B	612	427	0.00014
Alternative C	4,147	427	0.00097
Alternative D	1,119	427	0.00026

PAR 1156 is part of a comprehensive ongoing regulatory program that includes implementing related SCAQMD 2007 AQMP control measures as amended or new rules to attain and maintain with a margin of safety all state and national ambient air quality standards for all areas within its jurisdiction. The 2007 AQMP estimates a CO2 reduction of 427,849 metric tons per year by 2014, and a CO2 reduction of 1,523,445 metric ton per year by 2020. Therefore, PAR 1156 or any of the alternatives in connection with other 2007 AQMP control measures is not considered to be cumulatively significant.

Since GHG emissions are considered cumulative impacts and the GHG emissions from PAR 1156 and all the alternatives are below the 10,000 metric tons per year Market Advisory Committee threshold, the 25,000 metric tons per year CARB proposed mandatory reporting threshold under AB 32, a small percentage of the total statewide GHG inventory in 2014, and, with other control measures in the 2007 AQMP, which is a comprehensive ongoing regulatory program that would reduce overall CO2 emissions; cumulative GHG adverse impacts from PAR 1156 or its alternatives are not considered significant.

Since the CO2 emissions from this project are from construction, the peak year CO2 emissions would be eliminated after the completion of construction of the clinker pile enclosures (one year for the proposed project and Alternatives B and D, and two years for Alternative C). The proposed project and Alternatives B and D would generate 1.7 metric tons per year for chemical dust suppressant delivery. Alternative C would generate 0.37 metric ton per year. Alternative C would require less chemical dust suppressant because all storage piles would be fully enclosed.

d) Sensitive receptors in the district are currently exposed to daily PM10 conditions. PM10 has been found to lodge within the lungs contributing to respiratory problems. Implementing the proposed project is intended to reduce PM10 fugitive dust, which would reduce the exposure of surrounding neighborhood around the facility including sensitive receptors to PM10 concentrations, thereby improving public health in that area.

e) The proposed project is expected to require construction of enclosures for clinker storage. Odors are often associated with diesel emissions from construction equipment. Potential odor impacts from the proposed project are not expected to be significant because the incremental increase in the operation of heavy-duty construction vehicles would last for short periods of time or occur in remote locations so it is not likely that substantial odors would accumulate at any individual site.

Based on the above discussion, the proposed project may generate significant adverse air quality impacts. However, these adverse impacts have been previously disclosed in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005, SCAQMD staff will rely on the 2005 Final EA for PR 1156 and provide public review through a notice stating that the project will rely on the previously prepared EA as the draft EA for this proposed project pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑

Significance Criteria
Impacts on biological resources would be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse biological resource impacts from the current rule would not be significant.

(a) and (b) In general, the net effect of PAR 1156 would be extend dust control requirements from clinker storage. In particular, PAR 1156 would require enclosing clinker storage piles at cement manufacturing practices at one existing facility in the district. Construction of new cement manufacturing facilities may occur regardless of adoption of PAR 1156 and, therefore, is unrelated to PAR 1156. Construction of new cement manufacturing facilities would require a separate CEQA analysis prior to construction. There are no provisions in the proposed amended rule that require or result in any specific disturbance of undisturbed habitat or have a direct or indirect impact on plant or animal species. No reductions in sensitive plant or animal species are expected to result from implementing the PM control requirements specified in the proposed amended rule. No riparian habitat or other sensitive natural community would be affected by PAR 1156 because the affected facilities are located in industrial areas that have been previously

disturbed and cleared for safety. Implementing the proposed amended rule may improve wildlife habitats by reducing dust that may obstruct or damage these areas.

(c) The proposed amended rule is expected to increase existing efforts at one existing facilities in the district to control PM emissions. The proposed project does not require any direct removal, filling, hydrological interruption, or other activities in, or near, wetland areas as defined by §404 of the Clean Water Act (CWA). Thus, no adverse effects on these areas are expected.

(d), (e) and (f) Construction would occur at one existing facility located in industrial areas. The proposed amended rule is expected to increase existing efforts in the district to control PM emissions, specifically from clinker storage. There are no provisions in the proposed amended rule that conflicts with any local policies or ordinances that protect biological resources. The proposed project would not interfere with the movement of any native or migratory animals, affect wildlife corridors, or impede the use of native wildlife nursery sites, because it only affects dust control of clinker storage entirely within the boundaries of one facility.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on biological resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d) Disturb any human remains, including those interred outside formal cemeteries?	☐	☐	☑

SIGNIFICANCE CRITERIA
Impacts to cultural resources would be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse cultural resource impacts from the current rule would not be significant.

a) through d) In general, the net effect of the proposed amended rule would be to extend dust control requirements by requiring enclosing clinker storage at one existing cement manufacturing facility in the district. The proposed amended rule does not require the demolition or construction of any buildings or structures, or other activities that could potentially adversely affect cultural resources. Any construction would occur at an existing cement manufacturing facility in locations that have been previously disturbed (i.e., at storage piles). No changes to historic, archaeological or paleontological resources or unique geologic features are required upon implementation of the proposed amended rule. The proposed project does include provisions that may require construction or other activities that require site preparation activities such as grading or earth movement in storage areas and existing roads were needed to enclose clicker storage piles. Site disturbance from construction activities is currently subject to the dust control requirements of Rule 403. PAR 1156 directly affects dust control at one existing facility, which is located on previously disturbed land. Since the proposed project would not require soil disturbance outside the boundaries of the affected facility, no disturbance of human remains or cemeteries is anticipated as a result of adopting and implementing the proposed project.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on cultural resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	☐	☐	☑
b) Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑
e) Comply with existing energy standards?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts to energy and mineral resources would be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse energy impacts from the current rule would not be significant.

a) through e) In general, the net effect of the proposed amended rule would be to extend dust control requirements by enclosing clinker storage at one cement manufacturing facility in the district. There are no provisions within the proposed amended rule which would conflict with adopted energy conservation plans, result in the need for additional power or natural gas, create impacts on local or regional energy supplies, impact existing energy standards, or affect peak and base demands for electricity or other forms of energy, since enclosing storage piles is not expected to increase the need for additional energy for operations. Diesel fuel would be required for construction equipment.

The additional diesel fuel use at the affected facility for four months of construction is not expected to adversely impact the supply of diesel fuel in the district. Since construction would occur in open material storage areas, electricity is expected to be supplied by diesel generators;

therefore, no increase in electricity use is expected from construction. No natural gas use is expected from construction operations, since natural gas utilities are not typically located close to open material storage areas.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on energy are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
• Strong seismic ground shaking?	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☑
• Landslides?	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts on the geological environment would be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, and compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse geology and soils impacts from the current rule would not be significant.

a & d) The proposed amended rule is intended to reduce PM fugitive dust emissions from clinker storage. Enclosures built to comply with PAR 1156 would have to comply with relevant requirements of the Uniform Building Code and any other state, county and city building and safety codes which account for seismic activity. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death is not anticipated and will not be further analyzed.

b) The proposed amended rule does not contain any provisions that would require disruption of soils that could result in soil erosion or loss of topsoil. Soils may be disturbed during construction at one affected facility during the enclosure of clinker storage. However, these disturbances during construction would occur at storage areas, which were previously disturbed and construction activities would be temporary in nature. The result of any construction activities would be to advance the proposed project goal of enhancing current requirements to

stabilize any soil disruptions, specifically to prevent wind erosion that contributes to PM emissions.

c) Accordingly, the installation of structures at the existing affected facility to comply with the proposed project is expected to conform to the Uniform Building Code and all other applicable state and local building codes. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected facility is located in heavy industrial areas. Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landsides, mudslides, ground failure, or other natural hazards.

e) The proposed project does not require or involve the installation of septic tanks or alternative wastewater disposal systems. Therefore, no impacts from failures of septic systems related to soils incapable of supporting such systems are anticipated.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on geology or soils are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts associated with hazards would be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.

- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse hazards and hazardous material impacts from the current rule would not be significant.

a) through c) In general, the net effect of PAR 1156 would be to extend dust control requirements by enclosing clinker storage at cement manufacturing operations in the district. There are no provisions in the proposed amended rule which would require or result in the routine transport, use, or disposal of hazardous materials; create a significant hazard to the public; emit hazardous emissions, or require the handling of hazardous materials within one-quarter mile of an existing or proposed school. The proposed amend rule is expected to reduce hex chrome emissions from clinker storage; therefore, PAR 1156 would reduce hazardous emission from clinker storage. The reduction in hex chrome emission would result in a health benefit.

d) Government code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). If the affected site or operations are identified on such a list, compliance with the proposed project is not expected to affect in any way the facility's hazardous waste handling practices.

e) & f) The proposed project does not involve the use or transport of hazardous materials that could adversely affect air traffic or safety. Furthermore, neither facility is within two miles of a public airport or within the vicinity of a private airstrip. The nearest air fields (Norton Air Force Base, Rialto Municipal Airport and FLABOB Airport) are all over six miles away from CPCC. Therefore PAR 1156 is not expected to generate significant adverse hazards or hazardous materials impacts on air traffic or safety.

g) The proposed amended rule is intended to reduce PM fugitive dust emissions and contains no provisions that could interfere with any adopted emergency response or evacuation plans.

h) & i) Any construction as a result of PAR 1156 would occur at an existing cement manufacturing facility. The proposed amended rule does not require the construction of any building, structure or facility in wildlands or any location that could expose people or structures to significant loss, injury, or death involving wildland fires. Similarly, complying with the proposed amended rule does not require or involve the use of flammable materials that could increase fire hazards in areas with flammable materials.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on hazard or hazardous materials are not significant. Since no significant adverse impacts are anticipated, this environmental topic will

not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIX. HYDROLOGY AND WATER QUALITY. Would the project:			
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☑	☐
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☑
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☑	☐

SIGNIFICANCE CRITERIA

Potential impacts on water resources would be considered significant if any of the following criteria apply:

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project would result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than five million gallons per day.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse hydrology and water quality impacts from the current rule would not be significant. The project-specific impacts are divided into two major impact categories - water quality and water demand.

Potential Water Quality Impacts from Dust Suppression

a), f), k) The proposed project would require the enclosure of clinker storage. Currently, PM from clinker storage piles is controlled with chemical dust suppressants. The chemical dust suppressants are applied bi-weekly (i.e., every two weeks). Water is not used because it reacts with clinker. Using chemical dust suppressants would not affect in any way NPDES or related permits. Chemical dust suppressants do not migrate appreciable distances so groundwater would not be affected. Enclosing clinker storage would reduce the amount of chemical dust suppressants used at the affected facility.

During construction fugitive dust would be suppressed by the application of water. The application of water to areas under construction is not expected to have adverse impacts to water quality. Therefore, the proposed project is not expected to violate any water quality standards or waste discharge requirements, substantially degrade water quality or exceed the water treatment requirements of the Regional Water Quality Control Board.

Potential Water Demand Impacts from Dust Suppression

b), e), l), m), n) & o) The proposed amended rule is intended to reduce windblown dust from clicker storage areas. As noted in previous discussions, implementing the proposed amended rule could incrementally increase the application of water during construction operations. Since

no water is currently used on clinker storage and the enclosed clinker storage would not need water; there would be no water use during operations, and therefore, no adverse impacts to water demand.

Watering is currently being used as one of a number of dust suppression methods for aggregate and related operations, construction and demolition sites, unpaved roads and parking lots, storage piles other than clinker, landfills, and bulk material facilities under Rule 403. State nuisance law (Cal. Health and Safety Code § 41700) also restricts PM10 emissions to levels that do not "... cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public..." With the exception of unpaved roads and parking lots, the most frequently employed method of control for the types of facilities listed above is watering.

The facility affected by PAR 1156 currently use water or dust suppressants to control fugitive dust from a number of dust generating activities to comply with Rule 403. Implementation of the proposed amended rule would create a temporary incremental additional demand for water in dust suppression activities during construction that would cease upon completion of construction.

The application of water for construction dust suppression is short term and expected to be well under the significance criteria of five million gallons per day. SCAQMD staff estimates that no more than five acres at each facility would be disturbed by construction. Assuming three applications of one-inch of water over ten acres, 271,524 gallons per day may be applied during construction (10 acres x 43,560 sq feet/acre x one inch/12 inch x 7.48 gallon/cubic foot = 271,524 gallon/ day). The additional water is expected to be applied by water truck; therefore, no additional infrastructure is required.

Water is expected to be applied to affected construction areas with little to no run-off. Application of enough water to generate run-off would be counter productive to construction, since it would make the construction area muddy. Existing wastewater and discharge infrastructure is expected to be sufficient to handle any run-off from over application of water for dust suppression of construction activities.

Therefore, PAR 1156 is not expected to substantially deplete groundwater supplies or interfere substantially with groundwater recharge, require or result in the construction new water or wastewater treatment or stormwater drainage facilities or expansion of existing water facilities, or require a determination by the wastewater treatment provider that adequate capacity to serve the project is available. The proposed project would have sufficient water supplies to serve it from existing entitlements and resources.

Other Potential Impacts

c) & d) The proposed project does not involve altering the course of any stream, river, or drainage patterns, nor is it expected to alter any existing drainage patters at the affected site that could result in soil erosion or provide additional sources of polluted runoff. The proposed project does involve increasing dust control watering at the affected site during construction. However, the volume of water anticipated to be used would not substantially increase the rate or amount of surface runoff at any affected facility in the district in a manner that would result in

flooding, either on- or offsite, since construction work at the affected facility is expected only to dampen and/or stabilize dirt in construction areas.

g), h), i) & j) The proposed project does not require the construction of any buildings or other structure in a 100-year flood hazard area, which could impede or redirect flood flows. Similarly, the proposed project does not involve construction of structures, levees, or dams that could expose people or structures to a significant risk of loss, injury or death resulting from the failure of a levee or dam. Finally, the proposed project does not require construction of buildings or any other structures in or near areas that could be inundated by seiche, tsunami, or mudflow.

Based on the above discussion, the proposed project would incrementally increase demand for water because of increased water use and wastewater disposal. As a result water demand impact will not be further analyzed.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on hydrology and water quality are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c) Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

SIGNIFICANCE CRITERIA

- Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse land use and planning impacts from the current rule would not be significant.

a) through c) The net effect of PAR 1156 would be to enclose clinker storage at one cement manufacturing facility in the district. Typically, land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the proposed project. Further, the proposed amendments do not require the construction of any structure, building or facility, except for the addition of control equipment to already existing process equipment. Finally, the proposed amendments would not physically divide an established community, nor conflict with any land use, habitat conservation or natural community conservation plans.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on land use and planning are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

SIGNIFICANCE CRITERIA
Project-related impacts on mineral resources would be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse mineral resources impacts from the current rule would not be significant.

a) and b) No provisions of the proposed amended rule are expected to result in the loss of availability of known mineral resources, such as aggregate, minerals, etc., or the loss of availability of a locally-important mineral resource site. The net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on mineral resources are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

SIGNIFICANCE CRITERIA

Impacts on noise would be considered significant if:

- Construction noise levels exceed local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse noise impacts from the current rule would not be significant.

a), b), c) & d) Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying (unwanted noise). Sound levels are measured on a logarithmic scale in decibels (dB). The universal measure for environmental sound is the "A" weighted sound level, dBA, which is the sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. "A" scale weighting is a set of mathematical factors applied by the measuring instrument to shape the frequency content of the sound in a manner similar to the way the human ear responds to sounds.

The State Department of Aeronautics and the California Commission of Housing and Community Development have adopted the Community Noise Equivalent Level (CNEL). The CNEL is presented in Table 2-7. The CNEL is the adjusted noise exposure level for a 24-hour

day and accounts for noise source, distance, duration, single event occurrence frequency, and time of day. The CNEL considers a weighted average noise level for the evening hours, from 7:00 p.m. to 10:00 p.m., increased by five dBA, and the late evening and morning hour noise levels from 10:00 p.m. to 7:00 a.m., increase by 10 dBA. The daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value. The adjustment accounts for the lower tolerance of people to noise during the evening and nighttime periods relative to the daytime period.

Federal, state and local agencies regulate environmental and occupational, as well as, other aspects of noise. Federal and state agencies generally set noise standards for mobile sources, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of General Plan policies and Noise Ordinance standards, which are general principles, intended to guide and influence development plans. Noise Ordinances set forth specific standards and procedures for addressing particular noise sources and activities. The Occupational Safety and Health Administration (OSHA) sets and enforces noise standards for worker safety.

One example of local jurisdiction requirements might be the City of Riverside. Existing operational noise generated from cement manufacturing operations in Riverside would be subject to the City of Riverside Noise Element of the General Plan and/or the City of Riverside Municipal Code. Table 2-8 summarizes these requirements. Other local jurisdictions typically have similar requirements.

Table 2-7
State of California and Exterior Noise Standards

Land Use	Interior	Exterior
Residential – Single-family, multi-family, duplex, mobile home	CNEL 45 dB	CNEL 65 dB
Residential – Transient lodging, hotels, motels, nursing homes, hospitals	CNEL 45 dB	CNEL 65 dB
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	Leq(12) 45 dB(A)	---
Schools	Leq(12) 45 dB(A)	Leq(12) 67 dB(A)
General offices, reception, clerical, etc.	Leq(12) 50 dB(A)	---
Bank, lobby, retail store, restaurant, etc.	Leq(12) 55 dB(A)	---
Manufacturing, kitchen, warehousing, etc.	Leq(12) 65 dB(A)	---
Parks, playgrounds	---	CNEL 65 dB
Golf courses, outdoor spectator sports, amusement parks	---	CNEL 70 dB

CNEL – Community Noise Equivalent Level
Leq(12) – The A-weighted equivalent sound level averaged over a 12-hour period.

Table 2-8
City of Riverside Noise Requirements

Document	Requirement
Noise Element of the General Plan of the City of Riverside	Requires that the City of Riverside enforce the California Noise Insulation Standards, Title 24.
City of Riverside Municipal Code Chapter 7.25.010	Requires that noise levels within a residential zone not exceed 55 dBA between 7 a.m. to 10 p.m. or 45 dBA between 10 p.m. and 7 a.m.; 65 dBA for any office/commercial or public recreation facility; and 70 dBA for industrial or nonurban categories.
City of Riverside Municipal Code Chapter 7.35.010	Construction activities prohibited between the hours of 7:00 p.m. and 7:00 a.m. on week days, between 5 p.m. and 8 a.m. on Saturdays or any time on Sunday or federal holidays such that the sound creates a noise disturbance across residential or commercial property lines or exceeds maximum permitted noise for the underlying land use category, except for emergency work by variance.

Construction-Related Noise
PAR 1156 includes construction activities to comply with the proposed amended rule. Sources which may be expected to generate noise during temporary construction activities might include earth-moving equipment, trucks, work-crew vehicular traffic, compressors and generators. Table 2-9 presents a range of noise levels for various types of equipment that may be used at a typical construction site. Because of the nature of this activity, the types, numbers, periods of operation, loudness of equipment, and distance to the closest sensitive receptor/residence, will vary with each construction phase and the size of the affected facility.

Table 2-9
Typical Construction Noise Sources

Equipment Type	Typical Range (decibels)
Tractors/Crawlers/Dozers (up to 450 hp)	78 to 82
Grader (300 hp)	80
Diesel Trucks (100 to 400 hp)	72 to 81
Backhoe (85 hp)	76
Forklift (40 hp)	75
Air Compressor (25 hp or 230 hp)	75 or 80
Generator (22 hp or 550 hp)	73 or 85 @ rated hp

These construction activities will increase noise levels for a short duration, but will cease once construction activities are complete. Further, the noise from construction operations are not expected to exceed the operational noise from blasting and mining operations on-site.

In general, given ambient noise levels near the affected facility, noise attenuation (there is a six dBA drop in noise levels per doubling of distance), and compliance with local noise ordinances,

potential construction noise impacts are not expected to be significant. Substantial construction is only expected from building enclosures around the storage piles. Based on review of plot plans, the closest storage piles are over 300 feet from the property line. Assuming the noise levels from Table 2-5 are valid at 30 feet, and the noise attenuation factor of a six dBA drop in noise levels per doubling of distance; at 300 feet the noise from the construction equipment would be below the noise standards and requirements on Tables 2-3 and 2-4 (85 dBA – (10 x 6 dBA) ≈ 25 dBA).

The proposed project affects one existing facility and would not generate excessive noise levels outside the boundaries of the affected facility, or expose people residing or working in the project area to excessive noise levels. The proposed project requires no additional equipment to the existing facilities which would cause noise level to exceed ambient levels.

Operation-Related Noise

No provisions of the proposed amended rule would expose persons to noise levels in excess of standards established in local general plans or ordinances, or standards of other agencies because PAR does not impose additional requirements on the manufacturing of cement. The net effect of the proposed amended rule would require enclosing clinker storage at one cement manufacturing operation in the district. The proposed amended rule does not require the addition of any structure, building or facility that would expose people to groundborne vibration or noise, or increase ambient noise levels during operation (either temporary or permanent). TXI and CPCC are located in industrial areas and currently use heavy duty trucks and equipment. Since heavy-duty trucks and material handling systems are currently used at the affected facility, PAR 1156 is not expected to increase noise levels over to existing baseline noise.

No additional equipment is expected to be need during operations from the implementation of PAR 1156. PR 1156 is expected to reduce the amount of heavy-duty trucks during operations. The enclosure of clinker storage would reduce the amount of chemical dust suppressant needed, which would reduce the number of truck trips to deliver chemical dust suppressants. Therefore, noise from operation with PR 1156 requirements is not expected to be substantially different than the existing setting.

e) & f) Additional structures may be required as part of the proposed project to enclose storage piles at one affected facility. Neither facility is within two miles of an airport and, as a result, the proposed amended rule is not anticipated to generate noise at either affected facility that would affect any way airport land use plans or private airstrips. Therefore, construction of fugitive dust control is not expected to affect airport land use plans or private air strips.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on noise are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts of the proposed project on population and housing would be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse population and housing impacts from the current rule would not be significant.

a) through c) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. No provision of the proposed amended rule induces growth either directly or indirectly; or displaces any housing or substantial numbers of people, requires the construction of replacement housing.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on population and housing are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

SIGNIFICANCE CRITERIA

- Impacts on public services would be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse public service impacts from the current rule would not be significant.

a) & b) The net effect of the proposed amended rule would be enclose clinker storage at cement manufacturing operations in the district. The proposed project does not involve the use of hazardous materials so no impacts to emergency responders, such as local fire or police departments, are anticipated. Similarly, the proposed project would not be expected to affect in any way service ratios, response times or other emergency responder performance objectives.

c), d) & e) No provision of the proposed amended rule requires the use of public services such as schools, parks or other public facilities. As indicated in the "Population and Housing" discussion, there are no provisions in the proposed amended rule that would induce population growth, which would require construction of additional schools, parks, or other recreational resources. As a result, it is not expected that the proposed project would cause or require

physically altered public facilities. Further, enforcement activities required by PAR 1156 would be carried out by SCAQMD inspectors as part of their normal duties.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on public services are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

SIGNIFICANCE CRITERIA
The impacts to recreation would be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

DISCUSSION
The 2005 Final EA for PR 1156 concluded that adverse recreation impacts from the current rule would not be significant.

a) and b) The net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. Because the proposed project is not expected to induce or redirect population growth, no provisions of the proposed amended rule would increase the need for additional parks or other recreational facilities, or cause the deterioration of existing facilities. The proposed amended rule does not require the development or construction of new recreational facilities or require the expansion of existing recreational facilities, which could have an adverse effect on the environment.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on recreation are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

SIGNIFICANCE CRITERIA

The proposed project impacts on solid/hazardous waste would be considered significant if the following occur:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse solid/hazardous waste impacts from the current rule would not be significant.

a) and b) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. No provisions of the proposed project involve, or require, solid waste disposal activities. As a result, no impacts on landfill capacity are expected. Implementation of the proposed amended rule would not impede or hinder in any way compliance with any applicable federal, state or local statutes related to solid or hazardous waste disposal.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on solid and hazardous waste are not significant. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☑
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

SIGNIFICANCE CRITERIA

The impacts on transportation/traffic would be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

- A major roadway is closed to all through traffic, and no alternate route is available.
- There is an increase in traffic (e.g., 350 heavy-duty truck round-trips per day) that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

DISCUSSION

The 2005 Final EA for PR 1156 concluded that adverse transportation/traffic impacts from the current rule would not be significant.

(a), (b) & (f) In general, the net effect of the proposed amended rule would be to enclose clinker storage at cement manufacturing operations in the district. The enclosure would not increase operational truck trips, but would actually reduce truck trips since chemical dust suppressants would not be needed after clicker storage is enclosed. All adverse impacts would occur during construction from construction worker, haul truck and delivery truck trips to and from each site. The "worst-case" would require 30 two-way trips per day to deliver material as a part of construction of enclosures at the facility. Approximate 12 worker trips are expected from construction of the enclosures. These construction trips would not be significant because so few trips would be not appreciable change the LOS ratings or affect volume-to-capacity ratios at nearby intersections, and the construction periods would be short in duration.

c) There are no requirements in the proposed amended rule which would affect air traffic patterns because the proposed project does not involve transport of any individuals or materials by plane. Further, as noted in the preceding discussion, the proposed amended rule does not generate an increase in traffic levels or a change in location that results in substantial safety risks to local airports or airstrips. The nearest air fields are Norton Air Force Base, (Rialto Municipal Airport and FLABOB Airport) are all over six miles away from CPCC.

d) & e) There are no provisions in the proposed amended rule that require construction of design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment) that could create traffic hazards or result in inadequate emergency access, transportation/traffic design features, emergency access, or parking capacity.

Further, the proposed amended rule would not create an inadequate emergency access situation or inadequate parking capacity situation. There are no requirements in the proposed amended rule which would affect adopted policies, plans, or programs supporting alternative transportation. The proposed amended rule is intended to reduce PM fugitive dust emissions from one cement manufacturing facility.

Based on the above discussion, the proposed amended rule is not expected to generate a substantial number of new vehicle trips and therefore would not have a significant adverse impact on the transportation systems within the district.

Based on the above discussion, the proposed project is not expected alter the conclusion in the 2005 Final EA for PR 1156 that adverse impacts on transportation/traffic are not significant.

Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed. Therefore, it is appropriate to rely on the previously prepare 2005 Final EA pursuant to CEQA Guidelines §15153.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☑	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐

DISCUSSION

The 2005 Final EA for PR 1156 concluded that except for construction air quality impacts the mandatory findings of significant from the current rule would not be significant.

(a) The proposed project would require construction of clinker storage enclosures. However, as stated in the other sections of the checklist the proposed amended rule is not expected to have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. In general, the net effect of the proposed amended rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities in the district. In particular, PAR 1156 would extend dust control requirements for clinker storage at one cement manufacturing facility in the district. The proposed amended rule would enhance the clarity and enforceability of existing fugitive dust

rules to reduce PM emissions in the district. The only affected facility is an existing cement manufacturing facility, which has been previously graded, such that the proposed project is not expected to extend into environmentally sensitive areas, disturb riparian habitat, affect habitat conservation plans, etc. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project presented in the 2005 Final EA for PAR 1156 are the same, SCAQMD staff will rely upon the Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

(b) The Environmental Checklist indicates that the proposed project has potentially significant adverse impacts on air quality during construction activities to comply with PAR 1156. The potential for project-specific and cumulative impacts on these resources are the same as those evaluated for the adopted project in the Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. The 2005 Final EA for PR 1156 was certified by the Governing Board on November 4, 2005 during their Public Hearing Board Meeting. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project presented in the 2005 Final EA for PAR 1156 are the same, SCAQMD staff will rely upon the Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

(c) The proposed project may result in significant adverse emissions of regulated air pollutants during construction at the one affected facility. The potential for these impacts to have adverse impacts on human beings, either directly or indirectly, is the same as those evaluated in the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK) dated October 13, 2005. The 2005 Final EA was certified by the Governing Board on November 4, 2005 during their Public Hearing Board Meeting. Since the general environmental setting, significant adverse impacts and alternatives and mitigation measures related to each significant effect of the proposed project and the adopted project evaluated in the 2005 Final EA for PR 1156 are the same, SCAQMD staff will rely upon the 2005 Final EA for PR 1156 (SCAQMD No. 050307JK) pursuant to CEQA Guidelines §15153.

APPENDIX A

ABBREVIATIONS AND ACRONYMNS

Abbreviations and Acronyms

Abbreviation/Acronym	Description
µ	Micro
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
Basin	South Coast Air Basin
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO2	Carbon dioxide
CWA	Clean Water Act
dB	Decibel
dBA	Decibel A-weighted
EA	Environmental Assessment
EF	Emission factor
ERPG	Emergency Response Planning Guideline
GHG	Greenhouse gases
HP	Horsepower
IS	Initial Study
k	PM aerodynamic diameter constant
lb	Pound
M	Meter
MDAB	Mojave Desert Air Basin
MWD	Metropolitan Water District
NO2	Nitrogen dioxide
NOx	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PM	Particulate matter
PM10	Particulate matter less than 10 microns in aerodynamic diameter
PPHM	Parts per hundred million
PPM	Parts per million
PAR	Proposed Amended Rule
PR	Proposed Rule
S	Surface material silt content
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
sL	Silt loading
SO2	Sulfur dioxide
SOx	Sulfur oxides
SSAB	Salton Sea Air Basin
TAC	Toxic Air Contaminant
UBC	Uniform Building Code
USEPA	United States Environmental Protection Agency
VMT	Vehicle miles traveled
VOC	Volatile organic compound
W	Mean vehicle weight

APPENDIX B

PROPOSED AMENDED RULE 1156

APPENDIX C

ASSUMPTIONS AND CALCULATIONS

Table C-1
CO2 Emissions from Excavation for Enclosure

		Construction Activity		
One Acre		Excavation	15,624	Cubic Feet[a]
Site Preparation Schedule -	**3**	**days[a]**		

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Excavators	1	7.0	5
Tractors/Loaders/Backhoes	1	7.0	

Construction Equipment Emission Factors

Equipment Type[b]	**CO2** lb/hr
Excavators	120
Tractors/Loaders/Backhoes	67

Fugitive Dust Stockpiling Parameters

Silt Content[c]	**Precipitation Days[d]**	**Mean Wind Speed Percent[e]**	**TSP Fraction**	**Area (acres)[f]**
6.9	10	100	0.5	0.06

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[g]	**Mean Wind Speed[h]** mph	**Moisture Content[e]**	**Dirt Handled[a]** cy	**Dirt Handled[i]** lb/day
0.35	10	7.9	193	160,742

Table C-1 (Continued)
CO2 Emissions from Excavation for Enclosure

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[j]	1.1
Heavy-Duty Truck[k]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	5	20
Haul Truck[l]	2	40
Water Truck[m]	3	0.5

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Excavators	837
Tractors/Loaders/Backhoes	468
Total	**1,305**

Table C-1 (Concluded)
CO2 Emissions from Excavation for Enclosure

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	220
Haul Truck	674
Water Truck	13
Total	**906**

Total Incremental Emissions from Construction Activities

Sources	**CO2** lb/day
On-site Emissions	**2,211**

Notes:

a) Estimated for one-acre dome, excavation 10 feet below grade by three feet wide. 2002 RSMeans Building Construction Cost Data, 15th Annual Western Ed. ~ 0.04 hr/cft productivity for concrete block foundation wall. (15,624 cft x 0.04 hr/cft)/(27 cft/cyd x 8 hr/day) = 3 days

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) USEPA, AP-42, Jan 1995, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations

d) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993

e) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph. At least one meteorological site recorded wind speeds greater than 12 mph over a 24-hour period in 1981.

f) Assumed storage piles are 0.06 acres in size

g) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm

h) Mean wind speed - maximum of daily average wind speeds reported in 1981 meteorological data.

i) Assuming 0,193 cubic yards of dirt handled [(0,193 cyd x 2,500 lb/cyd)/3 days = 160,742 lb/day]

i) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

k) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

l) Assumed 30 cubic yd truck capacity for 0,193 cyd of dirt [(0,193 cyd x truck/30 cyd)/3 days = 2 one-way truck trips/day]. Multiple trucks may be used.

m) Assumed six foot wide water truck traverses over 15,624 square feet of disturbed area

n) SCAQMD Regional Significance Thresholds

Table C-2
CO2 Emissions from Construction of Enclosure

	Construction Activity
One Acre	Enclosure Construction
Construction Schedule	

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	2	7.0	12
Cranes	2	7.0	
Rough Terrain Forklifts	1	7.0	
Cement and Mortar Mixers	2	7.0	
Generator Sets	1	7.0	
Electric Welders	2	7.0	

Construction Equipment Combustion Emission Factors

	CO2
Equipment Type[b]	lb/hr
Forklifts	54
Cranes	129
Rough Terrain Forklifts	70
Cement and Mortar Mixers	7.2
Generator Sets	61
Electric Welders	N/A

Construction Vehicle (Mobile Source) Emission Factors

	CO2
	lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Table C-2 (Continued)
CO2 Emissions from Construction of Enclosure

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	12	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	762
Cranes	1,801
Rough Terrain Forklifts	492
Cement and Mortar Mixers	101
Generator Sets	427
Electric Welders	N/A
Total	**3,583**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	528
Flatbed Truck	1,347
Water Truck	35
Total	**1,911**

Table C-2 (Concluded)
CO2 Emissions from Construction of Enclosure

Total Incremental Combustion Emissions from Construction Activities

	CO2
Sources	lb/day
On-Site Emissions	**5,494**

Notes:

a) Based on discussions with dome manufactures.

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-3
CO2 Emissions from Miscellaneous Construction (Covering Transfer Points)

Example	**Construction Activity**
Two Acre Site	Miscellaneous Construction

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	2	7.0	4
Rough Terrain Forklifts	2	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Forklifts	54
Rough Terrain Forklifts	70

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	4	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-3
CO2 Emissions from Miscellaneous Construction (Concluded)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	762
Rough Terrain Forklifts	984
Total	**1,745**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	176
Flatbed Truck	1,347
Water Truck	35
Total	**1,559**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**3,304**

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form

	Construction Activity
One Acre	Three Sided Enclosure Construction - Panel Forms

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Rough Terrain Forklifts	1	7.0	8
Cement and Mortar Mixers	2	7.0	
Generator Sets	1	7.0	
Electric Welders	2	7.0	

Construction Equipment Combustion Emission Factors

	CO2
Equipment Type[b]	lb/hr
Rough Terrain Forklifts	70
Cement and Mortar Mixers	7
Generator Sets	61
Electric Welders	N/A

Construction Vehicle (Mobile Source) Emission Factors

	CO2
	lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	8	20
Flatbed Truck[a,e]	2	40
Water Truck[f]	3	1.4

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form (Continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Rough Terrain Forklifts	492
Cement and Mortar Mixers	101
Generator Sets	427
Electric Welders	N/A
Total	**1,020**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	352
Flatbed Truck	674
Water Truck	35
Total	**1,061**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**2,081**
Significance Threshold[g]	***N/A***
Exceed Significance?	

Table C-4
CO2 Emissions from Three-Sided Enclosure Construction - Panel Form (Concluded)

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Concluded)

Example	**Construction Activity**
One Acre	Three Sided Enclosure Construction - Tilt-up Panels

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Cranes	1	7.0	6
Generator Sets	1	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Cranes	129
Generator Sets	61

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	6	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

	CO2
Equipment Type	lb/day
Cranes	901
Generator Sets	427
Total	**1,328**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

	CO2
Vehicle	lb/day
Passenger Vehicles	264
Flatbed Truck	1,347
Water Truck	35
Total	**1,647**

Total Incremental Combustion Emissions from Construction Activities

	CO2
Sources	lb/day
On-Site Emissions	**2,974**
Significance Threshold[g]	***N/A***
Exceed Significance?	

Table C-5
CO2 Emissions from Three-Sided Enclosure Construction – Tilt-up Panels (Concluded)

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-6
CO2 Emissions from Enclosed Conveyor Construction

Example	**Construction Activity**
Two Acre Site	Enclosed Conveyor Construction

Construction Schedule

Equipment Type[a]	**No. of Equipment**	**hr/day**	**Crew Size**
Forklifts	1	7.0	4
Cranes	1	7.0	6
Rough Terrain Forklifts	1	7.0	

Construction Equipment Combustion Emission Factors

Equipment Type[b]	**CO2** lb/hr
Forklifts	54
Cranes	129
Rough Terrain Forklifts	70

Construction Vehicle (Mobile Source) Emission Factors

	CO2 lb/mile
Passenger Vehicles[c]	1.1
Heavy-Duty Truck[d]	4.2

Construction Worker Number of Trips and Trip Length

Vehicle	**No. of One-Way Trips/Day**	**One WayTrip Length (miles)**
Construction Worker	4	20
Flatbed Truck[a,e]	4	40
Water Truck[f]	3	1.4

Table C-6
CO2 Emissions from Enclosed Conveyor Construction (Concluded)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lb/day)

Equipment Type	**CO2** lb/day
Forklifts	381
Cranes	901
Rough Terrain Forklifts	492
Total	**1,773**

Incremental Increase in Onsite Combustion Emissions from Onroad Mobile Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x 2 x Trip length (mile) = Mobile Emissions (lb/day)

Vehicle	**CO2** lb/day
Passenger Vehicles	176
Flatbed Truck	1,347
Water Truck	35
Total	**1,559**

Total Incremental Combustion Emissions from Construction Activities

Sources	**CO2** lb/day
On-Site Emissions	**3,332**

Notes:

a) SCAQMD, staff estimate

b) 2008 Offroad EF, http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html

c) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

d) http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

e) Assumed haul truck travels 0.1 miles through facility

f) Assumed six foot wide water truck traverses over 100,000 square feet of disturbed area

g) SCAQMD Regional Significance Thresholds

Table C-7
Summary of CO2 Emissions

Description	No. of Trips per Day	Length of Round Trip, mile	CO2 Emission Factor, lb/mile	CO2, lb/year	CO2, metric tons/year
Rule 1156	9	40	4.21	131,400	72
Alternative C	1	40	4.21	14,600	8

Number of trips per day and length of round trip were taken from the Final EA for PR 1156, Nov. 2005.
CO2 emission factor - http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls.

Table C-8
Summary of CO2 Emissions

Sources	CO2 lb/day	CO2 lb/year	CO2 ton/year
Construction of a Dome			
Phase I - Excavation Emissions	2,211	6,633	3.3
Phase II - Dome Construction Emissions	5,494	483,454	242
Maximum Dome Emissions	**5,494**	**490,087**	245
Construction of a Three-Sided Enclosure			
Phase I - Excavation Emissions	2,211	6,633	3.3
Phase II - Concrete Pouring Emissions	2,081	49,951	25
Phase III - Panel Tilt-up Emissions	2,974	2,974	1.5
Maximum Three-Sided Enclosure Emissions	**2,974**	**59,559**	**30**
Miscellaneous Construction	**3,304**	**436,154**	**218**
Enclosing Crusher	**2,974**	**14,871**	**7.4**
Enclosing Conveyors	**3,332**	**439,840**	**220**

Dome excavation activities assumed to occur over three days to trench for retaining walls.
Dome construction would assumed to over four months based on discussions with dome contractor.
Three-sided enclosure excavation assumed to occur over three days.
Concrete pouring operations assumed to occur over 24 days for foundation and 20 foot enclosure for one acre area.
Panel tilt-up assumed be completed in one day.
Miscellaneous construction assumed to occur over six months.
Enclosing crusher assumed to occur over one week
Enclosing conveyors assumed to occure over six months.

Proposed Project

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Construction of Two Full Enclosures	10,988	980,175	539	980,175	539
Three Three-Sided Enclosures	8,923	178,676	98	178,676	98
Miscellaneous Construction	6,608	872,309	480	872,309	480
Operational Emissions	1,516	3,032	1.7	3,032	1.7
Maximum Emissions	**28,035**	**2,034,191**	**1,119**	**2,034,191**	**1,119**

Alternative B

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Four Three-Sided Enclosures	11,897	238,234	131	238,234	131
Miscellaneous Construction	6,608	872,309	480	872,309	480
Operational Emissions	1,516	3,032	1.7	3,032	1.7
Maximum Emissions	**20,021**	**1,113,574**	**612**	**1,113,574**	**612**

Alternative C

Sources	CO2 lb/day	CO2 lb/year	CO2 metric ton/year	CO2 lb/project	CO2 metric ton/year
Construction of 15 Domes (Five Simultaneously)	27,469	4,900,874	2,695	7,351,311	4,043
Construction of Crusher Enclosure	2,974	14,871	8.2	14,871	8.2
Construction of Enclosed Conveyors	6,664	879,680	484	879,680	484
Miscellaneous Construction	6,608	1,744,618	960	1,744,618	960
Operational Emissions	168	337	0.19	674	0.37
Maximum Daily Emissions	**43,716**	**7,540,043**	**4,147**	**9,990,480**	**5,495**

Construction of 15 domes is expected to occur over two years with five domes built simultaneously.
Assumed that conveyors can be enclosed within six months.
Assumed that miscellaneous construction occurs over one year.

The criteria emissions from Alternative D in the 2005 Final EA for PR 1156 are the same as for the adopted project. This is assumed to be the same for CO2 emissions.