

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for

Proposed Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Rule 1157 – Emission Reductions from Aggregate and Related Operations. The Draft EA was released for a 30-day public review and comment period from September 2, 2004, to October 1, 2004. Two comment letters were received from the public. To facilitate identifying modifications to the document, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striketrough~~.

The Draft EA contained the August 27, 2004 version of PR 1157. Modifications have been made to the proposed Draft EA in accordance with changes to the Staff Report and Proposed Rule for clarity and continuity.

None of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to environmental impacts in the draft document that would require recirculation of the Draft EA pursuant to California Environmental Quality Act (CEQA) Guidelines §15073.5.

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CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Legislative Authority

California Environmental Quality Act

Project Objective

Project Location

Regulatory Background

Project Description

Aggregate Operations and Related Operations

Industry Profile

Available Control Technologies

Emissions Inventory and Emissions Reductions

INTRODUCTION

The area of jurisdiction under the South Coast Air Quality Management District (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 dust¹. In response to these elevated PM₁₀ levels, the SCAQMD adopted Rule 403 – Fugitive Dust, to reduce fugitive dust and the corresponding PM₁₀ emissions.

Currently, fugitive dust from aggregate facilities is regulated under Rule 403 in the Basin. Proposed Rule (PR) 1157 would expand upon the general fugitive dust control requirements required at facilities with aggregate and related operations that currently are subject primarily to Rule 403. PR 1157 would implement a portion of the 2003 AQMP control measure BCM-08 – Further Emission Reductions from Aggregate Operations (PM₁₀). Aggregate operations are defined as plants that produce sand, gravel, crushed stone, and quarried rocks. PR 1157 would implement the non-cement operation portion of Control Measure BCM-08. A separate rule will be proposed to address emissions generated by cement manufacturing operations. Operations that are related to aggregate processes use sand, gravel, cement, crushed stone, and/or quarried rocks in their products, crush miscellaneous base, or are inert landfills that handle construction/demolition debris. PR 1157 would control PM₁₀ emissions through the use of performance standards and proposed dust control measures.

Throughout this document, references to the proposed project or PR 1157 are used interchangeably.

LEGISLATIVE AUTHORITY

The California Legislature created the SCAQMD in 1977² as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and in portions of the Salton Sea Air Basin and Mojave Desert Air Basin, referred to herein collectively as the district. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) which outlines plans and programs to achieve compliance with federal and state ambient air quality standards for all areas within the district³. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP⁴. PR 1157 would implement control measure BCM-08 – Further Emission Reductions from Aggregate Operations (PM₁₀) contained in the 2003 AQMP. Additional information on this control measure can be viewed or downloaded at <http://www.aqmd.gov/aqmp/docs/2003AQMPChap4.pdf>.

¹ SCAQMD, Board Package for Proposed Rule 403, Agenda No. 38, April 2, 2004.

² The Lewis-Presley Air Quality Management Act, Health & Safety Code §§40400-40540.

³ Health & Safety Code, §40460 (a).

⁴ Health & Safety Code, §40440 (a).

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

PR 1157 is a “project” as defined by CEQA Guidelines §15378 and California Public Resources Code §21065. SCAQMD is the lead agency for this project and has prepared this ~~draft~~ Final Environmental Assessment (EA) with no significant adverse environmental impacts pursuant to its certified regulatory program. California Public Resources Code §21080.5 allows public agencies with certified regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified its regulatory program. The SCAQMD’s regulatory program was certified on March 1, 1989, and is codified as SCAQMD Rule 110.

An environmental impact is defined as an impact to the physical conditions that exist within the area which would be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic significance. CEQA and Rule 110 both require that potential significant adverse environmental impacts of proposed projects be evaluated, and that feasible methods to reduce or avoid these significant adverse environmental impacts be implemented. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this ~~draft~~ Final EA to address the potential significant adverse environmental impacts associated with implementing PR 1157. The draft EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the project would not have significant adverse effects on the environment. Therefore, no alternatives or mitigation measures are required to be included in this draft EA to avoid or reduce any significant effects on the environment (CEQA Guidelines §15252(b)(2)). The environmental checklist and discussion in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

All comments received during the public comment period on the analysis presented in this draft EA ~~will be~~ has been responded to and are included in the ~~Appendix D of this~~ Final EA. Prior to making a decision on the proposed project, the SCAQMD Governing Board must review and certify the Final EA as providing adequate information on the potential adverse environmental impacts of PR 1157.

PROJECT OBJECTIVE

The district is faced with a number of constraints and complex circumstances to achieving clean air. These include the physical and meteorological setting, the large pollutant emissions burden within the entire district, and the rapid population growth of the area. The purpose of PR 1157 is to further reduce primary PM10 emissions from aggregate and related operations in the district, implement AQMP control measure BCM-08 – Further Emission Reductions from Aggregate Operations (PM10) in the 2003 AQMP, and to comply with most stringent control measure requirements.

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) (Orange County and the

nondesert portions of Los Angeles, Riverside, and San Bernardino counties) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subregion 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 Los Angeles County portion of the MDAB (known as North County or Antelope Valley) is bounded by the San Gabriel Mountains to the south and west, the Los Angeles/Kern County border to the north, and the Los Angeles/San Bernardino County border to the east. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains to 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 Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

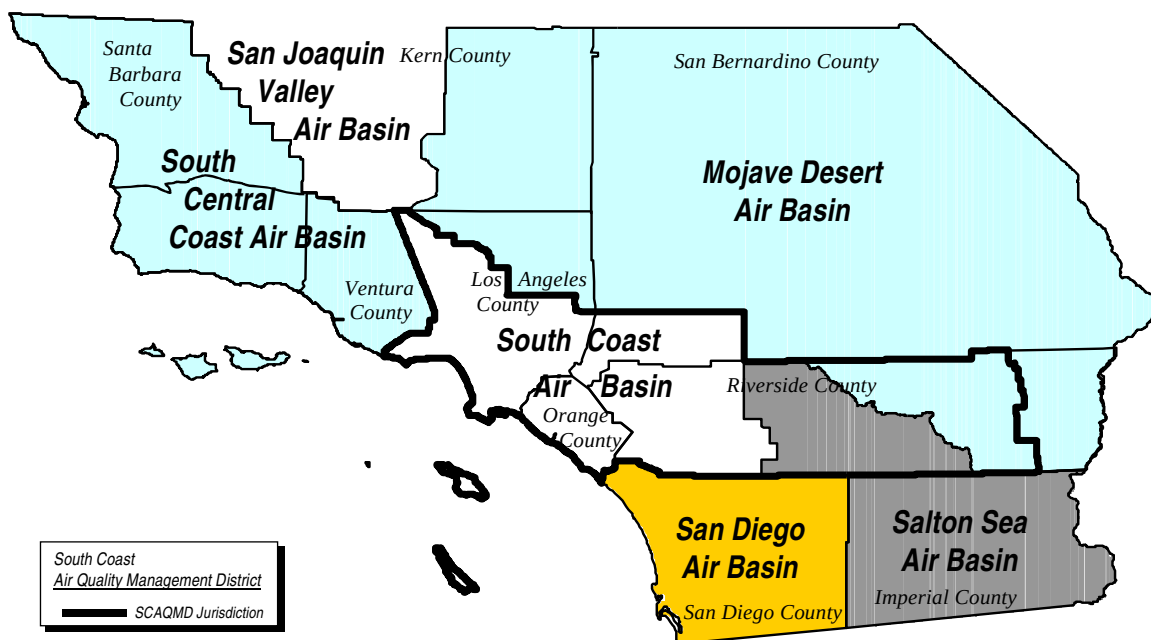


Figure 1-1
South Coast Air Quality Management District

REGULATORY BACKGROUND

There are three levels of regulatory requirements that apply to the aggregate and related industries: 1) federal requirements (i.e., U.S. Environmental Protection Agency or EPA); 2) state (i.e., the California Air Resources Board (CARB) and other state agencies), and, 3) local (i.e., the SCAQMD and local governments). The following is an overview of federal, state and local regulatory programs that are applicable to the aggregate and related operations.

Federal Requirements

The federal Clean Air Act requires the SCAQMD to adopt an AQMP that identifies a control strategy to demonstrate compliance with the federal ambient air quality standards. To address this federal mandate, the 2003 AQMP for the district included Control Measure BCM-08 – Further Emission Reductions from Aggregate and Cement Manufacturing Operations. In addition, there are other federal requirements that apply to aggregate and related operations. The following is a brief summary of these requirements.

Standards of Performance for Hot Mix Asphalt Facilities

EPA promulgated standards for hot mix asphalt facilities in Title 40, Chapter I, Part 60, Subpart I of the Code of Federal Regulations (40 CFR Part 60, Subpart I). Subpart I assigns a 20 percent opacity limit and a 90 micrograms/dry standard cubic meter PM content for fugitive emissions.

Standards of Performance for Nonmetallic Mineral Processing Plants

EPA promulgated standards for various equipment and processes of aggregate and related operations in the Code of Federal Regulations (40 CFR Part 60, Subpart OOO). In particular, Subpart OOO limits opacity to 10 percent for fugitive emissions at the transfer point of the conveyors; however, it does not address the dropping of materials from the conveyors to the storage piles. Subpart OOO also sets a limit of 15 percent opacity for fugitive emissions generated from the crushers.

State Requirements

State law also requires the SCAQMD to adopt an AQMP that identifies a control strategy to demonstrate progress towards achieving the state ambient air quality standards. The 2003 AQMP for the district that included Control Measure BCM-08 – Further Emission Reductions from Aggregate and Cement Manufacturing Operations, was also submitted to the CARB to comply with state law.

In addition, Senate Bill 656 (SB 656, Sher) which was enacted by the Legislature in 2003 requires CARB in consultation with local air districts, to adopt a list of most feasible control measures to reduce PM₁₀ and PM_{2.5}. SB 656 also requires CARB and local air districts to adopt implementation schedules for appropriate control measures by July 31, 2005, and CARB to report actions taken and recommend further actions to achieve the state PM standards.

~~The states of Texas, San Joaquin Valley APCD, Clark County (Nevada), and Maricopa County (Arizona) have developed similar rules, primarily for process operations Wisconsin, Florida, and Nevada have adopted rules governing aggregate operations, and Arizona is in the process of developing similar rules.~~

Local Requirements

SCAQMD Rule Requirements

At present, SCAQMD does not have a source-specific rule directed at aggregate and related operations located in the district. Instead, these operations are required to comply with SCAQMD Rule 203 - Permit to Operate, Rule 401 – Visible Emissions, Rule 402 – Nuisance, Rule 403 – Fugitive Dust, Rule 404 – Particulate Matter- Concentration, and Rule 405 – Solid Particulate Matter – Weight.

Rule 401 – Visible Emissions

Rule 401 controls visible emissions from any air contaminants discharged into the atmosphere from any single source. All sources are restricted from discharging emissions for a period or periods of time more than three minutes in any one hour which is as dark as or darker than the shade designated No. 1 on a Ringelmann Chart, or of such opacity to obscure an observers view to a degree equal or greater than smoke designated No. 1 on a Ringelmann Chart. Commercial charbroilers excluding those with control equipment or those that are chain-driven; equipment for melting, heating or holding asphalt or coal tar pitch for on-site roof construction or repair; and pile-drivers are restricted from discharging emissions that are equivalent or exceed smoke designated No. 2 on a Ringelmann Chart or that obscure vision to a degree equal or greater than smoke designated No. 2 on a Ringelmann Chart for period or periods of three or four minutes per hour depending on the type of equipment.

Rule 402 - Nuisance

Rule 402 limits the discharge of any air contaminant or other material from any sources that causes public injury, detriment, nuisance or annoyance. The rule also restricts emissions that endanger the comfort, repose, health or safety of the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 – Fugitive Dust

PM10 emissions from all human dust generating activities, including aggregate and related operations are currently regulated by Rule 403. Rule 403 presents dust control measures in a series of three tables. Table 1 presents best available control measures (BACM). BACM are the most stringent emission limitations or control techniques which are commercially available. Table 2 details dust control measures for large operations. Large facilities are those with active operations on property which contains 50 or more acres of disturbed surface area; or any earthmoving operation with a daily earth-moving or throughput volume of 3,850 cubic meters or more three times during the most recent 365-day period. Table 3 displays Contingency Control Measures for Large Operations. Rule 403 generally focuses on PM10 emissions from construction/demolition activities, disturbed surface areas, earth-moving activities, open storage piles, movements of motorized vehicles; and wind-driven fugitive dust.

Under Rule 403, aggregate and related operations are required to implement applicable actions in Table 2 and applicable actions in Table 3 when applicable performance standards cannot be met from Table 2 actions. Facilities that conduct large operations that do not implement measures in Table 2 and 3 of Rule 403 are required to submit a fully executed Large Operation Notification (Form 204N) within seven days of qualifying as a large operation; maintain daily records to document the specific dust control actions taken; after January 1, 2005, install and maintain project signage and identify a dust control supervisor; and notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.

Rule 403.1 - Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources

Rule 403.1 establishes special requirements for Coachella Valley fugitive dust sources. The requirements are applicable to active operation, open storage piles or disturbed surface areas, construction (earth-moving) activities that are not subject to local jurisdiction dust control ordinance requirements. Requirements include wind speed based operational restrictions;

stabilization; control actions specified in Table 2 of Rule 403; restrictions on earth-moving activities; fugitive dust control plans; signage; wind monitoring; and recordkeeping.

Rule 404 - Particulate Matter- Concentration

Rule 404 regulates PM emissions from control exhausts based on concentration. Rule 404 includes a table which presents the maximum discharge rate of particulate matter allowed by process weight over the lesser of one complete cycle of operation or one hour.

Rule 405 - Solid Particulate Matter – Weight

Rule 405 regulates PM emissions from control exhausts based on weight criteria. Rule 405 includes a table which presents the maximum concentrations of particulate matter allowed in discharged gas by volume of gas discharged over the lesser of one complete cycle of operation or one hour.

Local Dust Control Ordinances

The SCAQMD adopted the 2002 Coachella Valley State Implementation Plan (CVSIP), which includes the most stringent measures analysis and appropriate control measures.

Studies of Emissions from Aggregate Facilities

PM₁₀ is generated during the mining, processing, and handling (i.e., transporting, loading/unloading, conveying, crushing, screening, mixing, and storing) of the aggregates. Other significant sources of PM and PM₁₀ emissions are unpaved roads and track-out (materials from the facility are transported to part of the public roads where it can be crushed and entrained into the air by passing traffic.) The problem can be worse during high winds. As a result, several studies have been undertaken to address the PM₁₀ emission problem at affected facilities.

Environmental Effects of Gravel Mining Study

In response to increased concerns from the residents in Irwindale and nearby communities about the effects of the mining operations on air and water quality, Congresswoman Hilda Solis and Congressman Henry Waxman initiated an investigation. The findings of this investigation⁵ were published in December 2002.

2004 SCAQMD Monitoring Program

The SCAQMD initiated a comprehensive air monitoring study at six of the largest gravel mining and processing operations in the Irwindale area in May 2003 to characterize their air quality impacts. This PM₁₀ ambient monitoring follows the 40 CFR, Part 50, Appendix J monitoring procedures provided in Rule 403, which establishes a PM₁₀ upwind/downwind differential concentration level that facilities must comply with. The following are the key findings:

- Monitoring completed at four of the six sites indicate upwind/downwind PM₁₀ measured differences greater than 50 ug/m³ threshold established by SCAQMD Rule 403. The exceedances resulted in the issuance of Notices of Violations (NOVs) to the responsible facilities. While NOVs were issued, none of the NOVs have been settled or approved at this time.

⁵ Environmental Effects of Gravel Mining in Irwindale, CA: Basic Information Is Not Available to Assess Health and Environmental Risks to the Community.

- Results of the upwind sampling at two facilities suggest that unpaved access roads and track-out to paved public and private roads may contribute significantly to ambient PM10 levels. The finding is consistent with track-out observed at several locations.

SCAQMD staff is conducting on-going monitoring, field surveillance and inspections of aggregate and related operations in Irwindale to ensure compliance with health protective PM10 emission standards.

Irwindale Task Force

The SCAQMD established the Irwindale Task Force (ITF) which consisted of representatives from the SCAQMD, the City of Irwindale, the aggregate and related operations in the Irwindale area, the Southern California Rock Products Association (SCRPA), the Southern California Ready Mixed Concrete Association (SCRMA), and the consultants. The purposes of the ITF are to: 1) enhance communication between the SCAQMD, the city of Irwindale, and affected industries, 2) assist the affected industries in complying with current dust rules, and 3) seek commitments to mitigate fugitive dust.

This effort has been very successful ~~and the~~ while SCAQMD staff provides training to assist the facilities in identifying and further implementing effective dust controls. The SCAQMD staff also works with the City of Irwindale to implement an Interagency Workplan that allows for joint surveillance, ~~and~~ inspection activities and interagency complaint referral between the two ~~agencies-jurisdictions~~.

PROJECT DESCRIPTION

PR 1157 would implement BCM-08 – Further Emission Reductions from Aggregate Operations (PM10), previously evaluated and discussed in the Final 2003 Air Quality Management Plan (August 2003) and Final Program Environmental Impact Report for 2003 Air Quality Management Plan (August 2003). PR 1157 specifies the most effective emission controls that would extend beyond the Rule 403 requirements and are technologically feasible and cost-effective, to reduce dust impacts from affected facilities on the surrounding communities.

The following subsections briefly summarize the PR 1157. For the complete text of the proposed rule, please refer to Appendix A.

Proposed Rule 1157

Purpose

PR 1157 would reduce PM10 emissions from aggregate and related operations. Aggregate operations are defined as operations that produce ~~and/or mix~~ sand, gravel and crushed stone and/or quarried rock. Related operations are defined as operations that use sand, gravel, cement, crushed stone, and/or quarried rocks in their products, or crush miscellaneous base, and inert landfills that handle construction/demolition debris.

Applicability

PR 1157 applies to all permanent and temporary aggregate and related operations, unless otherwise exempted by the proposed rule.

Definitions

This subdivision lists keywords related to aggregate and related operations and defines them for clarity and to enhance enforceability. For example, dust suppressants are defined as water, hygroscopic materials, or chemical dust stabilizers used as a treatment material to reduce fugitive dust emissions.

Requirements

1. PR 1157 establishes the following performance standards effective January 1, 2005:

- No fugitive dust emissions exceeding 20 percent opacity shall be discharged to the atmosphere from any activity, equipment, ~~open~~-storage pile, or disturbed surface area, based on an average of 12 consecutive readings, using SCAQMD Opacity Test Method No. 9B. Less than five individual, consecutive discharges into the atmosphere, of fugitive dust emissions exceeding 50 percent opacity from any activity, equipment, storage pile, or disturbed surface area, using SCAQMD Opacity Test Method No. 9B, effective December 3, 2005. No visible dust plume exceeding 100 feet in any direction shall be generated from any activity, equipment, ~~open~~-storage pile, or disturbed surface area.
- Any pile of material spillage on any internal roads shall ~~not be allowed~~ promptly removed. Alternatively, piles of material spillage may be maintained in a stabilized condition with ~~chemical stabilizers~~ dust suppressants and removed ~~at by~~ the end of the each work day.
- All piles of material spillage not on internal roads and carry-back shall be maintained in a stabilized condition with ~~chemical stabilizers~~ dust suppressants until removal. Carry-back ~~are~~-is the dry materials that fall off the underside of the conveyor belt and accumulates on the ground.
- Sufficient application of dust suppressants or other dust control methods ~~approved by the Executive Officer to minimize PM10 emissions from non-exempt materials~~ shall be used at each emission source as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.
- Where applicable, a gravel pad shall be installed that contains one-inch or larger washed gravel maintained to a depth of six inches, has a geotextile lining underneath the washed gravel, and is flushed with water or is completely replaced as necessary to comply with the track out threshold set forth in Rule 403.

2. Loading, Unloading and Transferring:

- Operators of affected existing operations shall apply dust suppressant or other dust control methods ~~approved by the Executive Officer~~ at each emission source during loading, unloading, or transferring activities of ~~non-exempt materials~~ as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.
- ~~Operators of a new permanent operation would be required to comply with best available control technology (BACT) required by the Executive Officer.~~

3. Conveyor:

- Operators of existing operations using a conveyor shall apply dust suppressants or other dust control methods ~~to non-exempt materials~~ at the ~~beginning of the conveyor where~~

~~non-exempt materials are fed to the conveyor belt and at~~ including all transfer points where non-exempt materials are released materials as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.

- ~~Operators of conveyors that drop non-exempt materials to open storage piles shall release such materials through a chute that is at least five feet long.~~

4. Crushing Equipment:

~~Effective August 1, 2005, o~~Operators of facilities/operations conducting crushing activities of ~~non-exempt materials~~ shall use baghouse(s) to control PM10 emissions. Alternatively, operators may apply dust suppressants other dust control methods at the ~~feed stream to the crusher and at~~ including all discharge points during such activities as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.

5. Screening Equipment:

~~Effective August 1, 2005, o~~Operators that conduct outdoor screening activities of ~~non-exempt materials~~ shall use enclosed screening equipment that is equipped with a baghouse. Alternatively, the operator of ~~an operation conducting~~ screening activities may apply dust suppressants other dust control methods at the screening equipment including the feed stream to the crusher and at all discharge points as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.

6. Storage Piles:

- Operators of affected operations shall maintain in a stabilized condition the entire surface of the open storage piles of ~~non-exempt materials at all times~~, except for areas of the piles that are actively disturbed during the loading and/or unloading activities. Alternatively, the operator may store ~~non-exempt materials~~ in a silo or a bunker; maintain at least two feet of freeboard from the highest portion of the piles; and if a bunker is use, shall stabilize the sides of the pile that ~~is not surrounded~~ are not shielded by a non-porous walls.
- At the end of each work ~~shift day~~ in which loading and unloading activities of ~~non-exempt materials~~ were performed, the operator shall re-apply dust suppressants to re-stabilize disturbed areas of the piles.
- Operators of affected facilities/operations shall not allow any open storage piles of ~~non-exempt materials~~ to be greater than eight feet in height if such piles are located within 300 feet of off-site occupied buildings or houses; otherwise, operators of affected facility/operation shall ~~install and utilize~~ operate a water irrigation system to maintain the entire surface of the piles in a stabilized condition ~~the entire surface of the piles.~~

7. Internal Roadways:

a) Unpaved Roadways for Haul Trucks:

- Operators of affected facilities/operations shall apply ~~a dust~~ chemical stabilizers on internal unpaved haul roads so that the surface is maintained in a stabilized condition.
- Operators of affected facilities/operations shall post signs at the two ends of the internal unpaved haul roads, stating that haul trucks shall use these roads unless ~~otherwise exempted~~ traveling to the maintenance areas.

b) Unpaved Roadways for Non-haul Trucks and ~~Other Vehicles~~ Parking and Staging Areas:

- Operators of affected facilities/operations shall apply chemical stabilizers on unpaved roadways and parking and staging areas so that the surface is maintained in a stabilized condition; or apply ~~one inch or larger washed gravel maintained to a depth of six inches~~ a gravel pad as previously described in the General Performance Standards on the entire unpaved non-haul road and/or parking and staging areas.

c) Paved Roads:

- Operators of affected a ~~new facility/operation~~ with a minimum of 60 aggregate and/or mixer trucks exiting the facility on any day shall ~~water, clean, and/or sweep~~ internal paved roads with a ~~Rule 1186-certified~~ a street sweeper by the end of each production work shift, as well as, comply with spillage requirements for internal roads.
- Operators of ~~affected existing a facilityies/operation~~ with less than 60 aggregate and/or mixer trucks exiting the facility on any day shall ~~water, clean, and/or sweep~~ internal paved roads with a street sweeper by the end of every other work day each work shift, as well as, comply with spillage requirements for internal roads. On days that the roads are not swept, the operator shall apply water as necessary to comply with opacity, consecutive discharge, and dust plume performance standards stated previously on at least 100 feet of paved roads, or the entire length of paved roads leading to an exit to public paved roads, if such roads are less than 100 feet long.
- Sweepers that are purchased after December 3, 2004 shall meet the criteria of PM10-efficient Rule 1186-certified sweepers.
- Operators of a new facility/operation shall use a Rule 1186-certified sweeper to sweep the internal paved roads.

8. Track-Out:

- The operator of an facility/operation must ~~post signs at the exits of the facility stating and the drivers must take all reasonable steps to ensure~~ that all loads on aggregate trucks ~~must be are leveled, and maintained with~~ at least six inches of freeboard. The operator shall stabilize the load by applying dust suppressants in sufficient quantities to meet the opacity, consecutive discharge, and dust plume performance standards stated previously, prior to entering paved public roads or prior to use of a rumble grate and wheel washer.
- The operator of a facility/operation must post signs at the exits of the facility requiring all loads to comply with the requirements to ensure that all loads on aggregate trucks are leveled-maintained with at least six inches of freeboard, and are stabilized with dust suppressants in sufficient quantities to meet the opacity, consecutive discharge, and dust plume performance standards stated previously, prior to entering paved public roads or prior to use of a rumble grate and wheel washer.
- Effective December 3, 2005, the operator of a less active facility/operation shall install and utilize a rumble grate, or a wheel washer, or a truck washer that is located no less than 30 feet prior to each exit that is used by aggregate and/or mixer trucks and leading to a public road; ensure that all aggregate and mixer trucks leaving the facility go through the rumble grate, wheel washer, or the truck washer; post a sign by the rumble grate, wheel washer, or truck washer restricting the speed limit to five miles per hour. If the internal road from the rumble grate, wheel washer, or the truck washer is not paved, the

operator shall apply a pad as described in the general performance requirements to such roads. If the distance between the rumble grate, wheel washer, or the truck washer and the public road is less than 30 feet, the operator shall demonstrate to the Executive Officer that the rumble grate, wheel washer, or the truck washer utilized at this shorter distance would be adequate to prevent track out of dust to the public road, by July 1, 2005. The operator of a new, temporary facility/operation shall provide such demonstration to the Executive Officer prior to the beginning of its operation.

- Effective ~~August 1~~ December 3, 2005, the operators of affected a new permanent facility/operations with land size in excess of 25 acres or with a designed daily throughput of 750 tons, and the operators of an existing permanent facility/operations with ~~area in excess of 50 acres or with a minimum of~~ 60 aggregate and/or mixer trucks ~~trips~~ exiting the facility on any day shall install and utilize a rumble grate and a wheel washer that is located no less than 30 feet from each exit that is used by aggregate and/or mixing trucks and leads to a paved public road. The rumble grate shall be located within 10 feet of the wheel washer. ~~The wheel washer must wash the entire circumference of each wheel.~~ All aggregate trucks and mixer trucks leaving the facility must go through a rumble grate and wheel washer. The operator shall post a sign by the rumble grate to designate the speed limit to five miles per hour for traveling over the rumble grate and wheel washer. Internal roads from the rumble grate and wheel washer to the facility exits leading to the paved public roads shall be paved. All aggregate and/or mixer trucks shall stay on internal paved roads between the wheel washer and the facility exits leading to the paved public roads. If the distance between the rumble grate, wheel washer, or the truck washer and the public road is less than 30 feet, the operator shall demonstrate that the rumble grate, wheel washer, or the truck washer utilized at this shorter distance would be adequate to prevent track out of dust to the public road to the Executive Officer by July 1, 2005. The operator of a new, permanent facility/operation shall proved such documentation to the Executive Officer prior to the beginning of its operation
- Operators of ~~affected a~~ facility/operation shall provide aggregate and/or mixer companies and/or broker with “Fugitive Dust Advisory” information once at least once each calendar year.

9. Best Available Control Technology

- The operator of a new permanent facility/operation shall comply with all requirements set forth in PR 1157 and apply Best Available Control Technology as required by the Executive Officer.

10. Federal Regulations

- New and/or modified equipment shall comply with 40 CFR Part 60, Subpart I and/or 40 CFR Part 60, Subpart OOO as appropriate.

Recordkeeping Requirements

Operators are required to keep records on-site for three years, except for Title V facilities which are required to keep records on-site for five years. These records shall be made available to the SCAQMD Executive Officer upon request. PR 1157 requires records of watering, and sweeping ~~and cleaning~~ schedule for internal paved roads; records of ~~designed throughput or~~ aggregate and/or mixer trucks existing the facility, records of “Fugitive Dust Advisory” information

distribution, and records of new equipment initial start-up and/or existing equipment start-up after a repair to fix an equipment breakdown if seeking an exemption pursuant to the new equipment start-up/breakdown exemption. Operators must maintain records of aggregate materials transported directly to facilities with activities and/or equipment at ready-mix concrete and hot mix asphalt plants that produce materials for use in a public road paving project that is being poured during high winds, if seeking an exemption. Operators must maintain records of operating days if seeking an exemption for infrequent mining operations.

Test methods

Proposed rule language requires approved test methods to be used in determining ~~moisture content~~, opacity, threshold friction velocity and surface stabilization.

~~Bump-Up Provisions-Additional Requirements Triggered by Recurring Violations~~

PR 1157 requires additional requirements for operators of existing facilities located within 500 meters of off-site occupied buildings or houses or a sensitive receptor, who accrues three or more validated approved notices of violation for causing or allowing fugitive dust emissions that exceed 20 percent opacity based on an average of 12 consecutive readings using SCAQMD Opacity Test Method No. 9B; five individual discharges into the atmosphere of fugitive dust exceeding 50 percent opacity from any activity, equipment, storage pile or disturbed surface area using SCAQMD Opacity Test Method No. 9B; or a visible fugitive dust plume exceeding 100 feet in any direction, issued on separate dates for a given from the same emission source at the facility in any three continuous calendar years twelve month period ("recurrent violations") starting August 1–December 3, 2005. Within 30 days of the third notice being validated the operator shall submit an emission reduction plan to the Executive Officer that proposes additional emission control measures sufficient to remedy the cause of the recurrent violation and prevent future violations; and provides for implementation of the specified additional control measures at the earliest practicable date. Such facilities would be required to use chemical stabilizers at all times during loading, unloading and transferring, if loading, unloading and transferring activities are the source of the problem. The operator of the affected facility shall install a telescopic chute at the transfer point of the conveyor, if such conveyor is the source of violation. The facility shall operate a stationary water irrigation system to stabilize the entire surface of the pile if an open storage pile is the source of violation. The facility would be required to pave the internal unpaved road if the road is the source of violation. The Executive Officer shall approve the emission reduction plan within 30 days of receipt of a complete plan, if it is determines that the plans implementation will likely remedy the cause of the recurrent violations. The Executive Officer may impose additional conditions in the plan if it is determined necessary to remedy the cause of the recurrent violations. The Executive Officer may not require, as a condition of approving an emission control plan, an operator to implement control measures that are economically or technologically infeasible, that do not directly address the cause of the recurrent violations, or that require the operator to take responsibility for the conduct of a third party over whom the operator has no legal control. A disapproval or conditional approval of a plan by the Executive Officer may be appealed to the Hearing Board.

The Executive Officer shall disapprove any plan that does not demonstrate a substantial likelihood of preventing violations in the future. If a plan is disapproved, the responsible party

shall submit a revised plan which cures the defects within 30 days of receipt of notice of disapproval.

Exemptions

- ~~Materials and activities associated with materials with the following characteristics: more than seven percent moisture on the particle surface, or that are larger than one-half inch sieve in size, or that demonstrate non-emission through test methods set forth in the rule; with the exception of spillage requirements, would be exempt from the loading, unloading and transferring; conveyer; crushing equipment, screening equipment, storage piles, internal roads, track-out requirements and dust suppression requirements from the general performance standards requirements of PR 1157.~~ The following activities would be exempt from opacity, consecutive discharge, and visible plume requirements of PR 1157: equipment maintenance activities scheduled at least 48 hours in advance by the operator of the facility; equipment breakdown subject to Rule 430; or during the first eight hours of new equipment initial start-up and the first two hours of equipment start up after repair to fix an equipment breakdown; and blasting operations.
- During high winds the operator would be exempt from opacity, consecutive discharge, and visible plume requirements, if all activities and equipment operations other than dust controls are ceased. The following would not be required to cease operations during high winds: activities and/or equipment at ready-mix concrete and hot asphalt facilities that produce materials for use in construction project that is being paved or poured during high winds; and loading and transport of aggregate materials directly to those facilities. The operator requesting this exemption shall demonstrate, at the Executive Officer's request, that irreparable damage to the construction project would occur if such operations are ceased during high winds.
- Scalping screens would be exempt from enclosed screen requirements.
- Operators of affected facilities/operations would be exempt from the use of chemical stabilizers for ~~a specific~~ internal unpaved road if the use of applicable chemical dust suppressants on ~~that those~~ specific unpaved roads violates the rules and/or regulations of the local Water Quality Control Board or other government agency. Alternatively, an operator may apply water in sufficient quantity and frequency on those specific unpaved roads so that the surface is maintained in a stabilized condition. The facility would be required to notify the Executive Officer in writing 30 days prior to the use of water and demonstrate that the use of chemicals was not allowed on those specific paved roads.
- Empty haul trucks traveling to and from maintenance areas would be exempt from the requirement to use internal unpaved roads designated for haul trucks if they travel on internal unpaved non-haul roads for non-haul trucks that comply with applying chemical stabilizers on such unpaved roads so that the surface is maintained in a stabilized condition, or install a wash gravel pursuant to the general performance requirements and other vehicles that comply with the non-haul truck and other vehicle requirements set forth in the rule.
- Unpaved non-haul roads for non-haul trucks and other vehicles would be exempt from the unpaved non-haul road trucks and other requirements if such roads are used less than twice a day, and signs are posted on such roads to restrict the speed limit to 15 miles per hour and are restricted to non-haul trucks and other duty vehicles only.
- Carry-back that is generated by tunnel feed would be exempted from the three-day general performance standards carry-back removal requirement.

- Truck trimming areas are exempt from the unpaved non-haul road requirements.
- Facilities where aggregate trucks are not used to carry aggregate or related material to and off the facility property are exempt from track out requirements.
- Operators are not required to install and operate a wheel washer if:
 - o All internal roads are paved and with the exception of returned products, aggregate or related materials are metered directly to a truck. These facilities may accept returned products and are still qualified for the exemption from a wheel washer. The facilities are instead required to have a rumble grate or truck washer and comply with the less active facility/operation track out requirements.
 - o Facilities that are less than five acres in land size and that handle recycled asphalt and recycle concrete exclusively, provided that the operator installs a rumble grade that is located no less than 30 feet prior to each exit that is used by aggregate and/or mixer trucks and leading to a public road; ensure that all aggregate and mixer trucks leaving the facility go through the rumble grate, wheel washer, or the truck washer; post a sign by the rumble grate, wheel washer, or truck washer restricting the speed limit to five miles per hour. The operators would also need to install a gravel pad as previously described in the General Performance Standards on the entire unpaved road leading to a public road.
 - o Facilities that pave a minimum of one-fourth mile from the rumble grate to the facility exit leading to a public road.
 - o Infrequent mining operations, provided that the following: the operator shall install a rumble grate and apply a gravel pad that meets the requirements described in the General Performance Standards for a distance no less than 100 feet from the rumble grate to the facility exit leading to a public road, and records shall be kept. The operator shall inform the District in the case that the facility operators more than 52 days per year based on the average of a rolling three year period after December 3, 2004. Facilities that are required to notify the District shall comply with the track-out requirements.
- The operator of a facility/operation is exempt from using the test methods set forth in the proposed rule for demonstration of surface stabilization of open storage piles where 90 percent of their volume contain materials that are larger half inch, providing such piles meet the opacity, consecutive discharge, and visible plume requirements

Alternative Control Options

In lieu of using dust suppressants, facility may submit for approval b the Executive Officer and the U.S. Environmental Protection Agency a plan for achieving equivalent emissions reductions through alternative control measures.

AGGREGATE OPERATIONS AND RELATED OPERATIONS

The following subsections describe the various types of operations that would be regulated by PR 1157.

Aggregate Operations

Aggregate operations produce sand, gravel, crushed stones, quarried rocks, slag, and rock dust.

Crushed stone might be composed of limestone, granite, and any other hard rocks that are produced by blasting and then crushing. Sand and gravel consist of unconsolidated granular

materials found in natural deposits. The processing of sand and gravel is different depending on the types of the products to be produced.

Construction Sand and Gravel

Sand and gravel are usually mined in a moist or wet condition by open pit excavation or by dredging. Open pit excavation is carried out with front end loaders, bucket wheel excavators, or draglines. Mining by dredging is carried out with suction or bucket-type dredges that remove sand and gravel from the bottom of a lake or river.

After mining, sand and gravel are transported by conveyors, trucks, barges, or earth movers to the aggregate plants where they are either stockpiled or dumped into hoppers. Sand and gravel are then transported by belt conveyors, hydraulic pumps, or bucket elevators to scalping screens. Materials that pass through scalping screens are fed into sizing screens, which consist of either horizontal or sloped single or multi-deck vibrating screens. Oversize materials are directed to crushers for size reduction before returning to the screening process.

After screening, sized gravel is stockpiled and sand is directed to log washers or rotary scrubbers for the removal of clay and impurities. After scrubbing, sand is sized by water classification, and then dewatered by hydroseparators or separatory cones before being stockpiled.

Industrial Sand and Gravel

Industrial sand and gravel are mined from open pits of quartz-rich sand and sandstone. After mining, the materials are transported by trucks or conveyors to the aggregate plants where they are stockpiled and crushed. For primary and secondary crushing, gyratory crushers, jaw crushers, and impact mills are used. After crushing, the materials are further ground to smaller sizes (50 micrometers or smaller) by hammer mills or jet mills, and then classified by screening process(es). After initial crushing and screening, industrial sand and gravel are washed and classified again before being scrubbed to remove surface stains and further deslimed. The purified sand is conveyed to drainage bins and is then dried in rotary dryers. After drying, industrial sand is cooled and classified again before being stockpiled or packaged for shipment.

Concrete Batching

Concrete is mainly composed of water, cement, sand, and coarse aggregate. Mineral admixtures or pozzolans such as fly ash and ground granulated blast-furnace slag may be added to reduce permeability, increase strength, or influence other concrete properties. Chemical admixtures may also be added to entrain air or modify the setting rate.

Approximately 75 percent of the U.S. concrete is produced at concrete batch plants. Many plants are located near aggregate sources; others may be temporarily set up near major job sites. At most of the concrete batch plants, the concrete materials are gravity fed (charged) from the weigh hopper into the mixer trucks, which mix the ingredients on the way to the job sites (dry batch operation). The concrete may also be charged into a central mix drum and transferred to a truck (wet batch operation). The remaining manufactured concrete includes concrete masonry and precast products, such as concrete bricks, paving stones, structural components, bridge girders, and panel for cladding.

Typical equipment in a concrete batch plant includes conveyors, elevators, elevated storage bins and silos, weight hoppers, and mixers. The primary concern is particulate matter, mostly from cement dust. Cement is so fine that it contains approximately 150 billion particles per pound, about 10 to 20 percent of which are smaller than five microns in diameter. Dust may also come from pozzolan, sand, and aggregates. These dust particulates are generated during the transferring and mixing of materials, as well as from sand and aggregate open storage piles. The movement of heavy trucks on unpaved or dusty surfaces around the plants also generates dust. Typical dust controls at concrete batch plants may include water sprays, dust suppressants, hoods, baghouses, etc.

Hot Mix Asphalt

Hot mix asphalt is a mixture of size-graded, high quality aggregate with liquid asphalt cement binder, which is heated and mixed in measured quantities. To produce good quality hot mix asphalt, a certain amount of fine aggregate less than 74 micrometers is required. Reclaimed asphalt pavement is widely used in the asphalt mixture. Aggregate and reclaimed asphalt pavement usually constitute over 92 percent by weight of the total mixture.

Hot mix asphalt is manufactured by batch mix, continuous mix, parallel flow drum mix, and counterflow drum mix plants, which can be permanent, skid-mounted, or portable. In 1996, there were approximately 2,300 batch plants and 1,000 parallel flow drum mix plants out of 3,600 estimated active hot mix asphalt plants in the United States, and they produced approximately 240 million tons and 260 million tons, respectively. Today counterflow drum mix plants comprise the majority (about 85 percent), while batch plants and parallel flow drum plants account for 10 and five percent of the total, respectively.

In general, at hot mix asphalt plants, dust particulates are generated during conveying, screening, and mixing of materials, as well as from aggregate open storage piles. The movement of heavy trucks on unpaved or dusty surfaces around the plants also generates dust. Typical dust controls may include water sprays, hoods, enclosures, baghouses, etc. In addition, the drying of aggregate may also generate dust emissions. However, the dryers vent to a baghouse filter for particulate control.

Batch Mix

With the batch mix process, aggregate is dried by a rotary dryer. The hot aggregate is then screened and, according to its grade (size), is transferred to individual bins over a weight hopper. The aggregate with desired mix and weight is dry-mixed in a mixer (pug mill) for six to 10 seconds. The appropriate amount of liquid asphalt cement and reclaimed asphalt pavement is transferred to the pug mill. The total mixing time usually is less than 60 seconds. The hot mix is stored in a silo or transferred directly into an asphalt truck.

Parallel Flow Drum Mix

With the parallel flow drum mix process, the size-graded aggregate is transferred to the drum at the burner end. As the drum rotates, the aggregate and the combustion products move in parallel toward the other end of the drum. An appropriate amount of liquid asphalt cement is introduced in the mixing zone located in the middle of the drum. The mixture is discharged at the end of the drum and is conveyed to either a surge bin or a silo for loading into a transport truck.

~~This mixing process captures a substantial amount of aggregate dust, therefore, lowering the load on the downstream PM collection equipment. As a result, only primary dust collection equipment such as baghouse is needed.~~

Counterflow Drum Mix

With the counterflow drum mix process, the aggregate flows in opposite direction to the exhaust gases. In addition, the liquid asphalt cement mixing zone is located behind a burner flame zone. As a result, this process is expected to generate less organic emissions compared to the parallel flow drum mix.

INDUSTRY PROFILE

Based on information obtained from the SCAQMD permit system and the 2001-2002 Annual Emissions Reporting database, SCAQMD staff identified 316 aggregate and related facilities. With the assistances of the Southern California Rock Products Association (SCRPA) and the Southern California Ready Mixed Concrete Association (SCRMA), staff also identified an additional 79 potentially affected facilities.

To better characterize the aggregate industry SCAQMD staff solicited information through an industry survey. Data collected from the surveys assisted staff to more accurately:

- identify and characterize facilities subject to the proposed rule;
- estimate PM10 emissions generated by affected facilities; and,
- establish the baseline PM10 emissions for this industry in the district.

Surveys were distributed on March 26, 2004, to 395 potentially affected facilities. Out of 156 responses received, 47 responses were from concrete batching, 29 from aggregate, 26 from hot mix asphalt, 25 from concrete product, 15 from crushed miscellaneous base facilities, eight from facilities that fall under the “other” category (i.e., blending and bagging sand and cement, landfill handling construction and demolition debris, etc.), and six from exempt facilities (i.e., out of business, located outside the district, and non-aggregate businesses). The majority of the survey responses came from large and medium facilities, as well as facilities with more than one location.

Based on the industry’s input, there are approximately 29 aggregate, 100 concrete batching, 45 hot mix asphalt, and 25 crushed miscellaneous base facilities in the district. For the rest of the 190 facilities in the universe, staff estimated 152 concrete product and 38 “other” facilities. The number of facilities by category is presented in Table 1-1.

Table 1-1
Aggregate and Related Facilities in the South Coast Air Basin

Category	Number of Facilities
Aggregate	29
Concrete Batching	100
Concrete Product	152
Crushed Miscellaneous Base	25
Hot Mix Asphalt	45
“Other”	38
Exempt	6
Total	395

AVAILABLE CONTROL TECHNOLOGIES

PR 1157 would rely on existing technology that is currently available and, in some cases, employed by some of the affected facilities. No new technologies will need to be developed to comply with PR 1157. The following subsections describe the primary dust generating sources regulated by PR 1157 and appropriate control technologies.

Enclosed Conveyors

PM10 emissions from the open conveyors are generated due to the following: wind impaction on the open conveyors, conveyor belt vibrations during the delivery of materials, residual materials that remain on the return side of the conveyor belt, and materials that fall to the ground and become airborne or are tracked outside of the facility. A conveyor that is inside a tube or a similar construction that is dust impermeable would eliminate PM10 emissions. Dust curtains can be used to contain dust within a conveyor enclosure. They should be installed at the head, or ends to provide easy access during maintenance. However, ventilation in the conveyor tube is usually required for worker safety; therefore, the ventilation system should be equipped with PM10 filters.

This type of system is currently employed by Koch Carbon (a facility that handles coke which is a petroleum refining byproduct) in Pittsburg, California, and several waste water treatment plants (WWTP) in the United States to transport biosolids (i.e., Corona WWTP in Corona, California, South Bayside WWTP in Redwood City, California, Chambers Creek in Washington, Rahway WWTP in New Jersey, 91th Ave. WWTP in Arizona, West Boise WWTP in Idaho, South Valley WWTP in Utah, and Sand Island WWTP in Hawaii).

The estimated cost for this system is \$1,000 per foot, and yearly maintenance is required (according to Ed Morris of Parkson Inc., a company in Florida that manufactures the enclosed conveyors). The enclosure can be quite expensive and the maintenance associated with the enclosure is an issue for aggregate operations where the conveyors are usually many miles long; therefore, this type of system is not currently employed by any of the aggregate operations in the U.S. Staff has ruled out this technology as a reasonable option for further reducing emissions from conveyors in existing facilities.

Open Conveyors with Dust Suppressant

An automated dust suppressant spray system can be installed at the transfer points to dampen or stabilize materials transported on conveyors; which would reduce PM emissions. For conveyors and tunnel feeds, good housekeeping practices are essential to inspect fallout of materials from belt vibrations and from residual materials that adhere to the belt and fall out on the belt return side. These control methods are commercially available and currently are implemented by many affected facilities.

Dust Suppressant

Dust suppressants, including water and chemical surfactant (in both liquid and foam forms), are utilized to suppress the formation of airborne dust by forming a crusted layer on the surface of the material controlled. The liquid spray dust suppression system is utilized to control PM emissions from material handling at conveyor transfer points and to stabilize open storage piles as well as unpaved roads. The wetting agent can be water or a combination of water and chemical surfactant. There are several types of chemical surfactants commercially available; however, magnesium chloride and calcium chloride are the most popular. According to the 1983 EPA's research, chemical surfactants reduce the surface tension of water; hence, reduce the quantity of water necessary to achieve good control by a minimum ratio of 4:1. Dust suppressants are currently used by the majority of affected facilities.

Micron-sized foam application is an alternative to a water spray system. The foam system can provide greater control at a lower additional moisture rate than liquid spray systems; however, the foam should be distributed throughout the materials rather than covering them. In addition, the amount applied should allow the foam to dissipate. The presence of foam in the materials indicates that either too much foam was used or the foam was not adequately dispersed within the materials.

Drive-Over Grizzly and Bottom-Dumping

A drive-over grizzly is a device where materials are delivered and received from the bottom of the truck trailer through a set of uniformly spaced bars, rods, or rails constructed on top of an underground hopper. Materials are then transported to various processing equipment throughout the facilities by conveyors which are equipped with liquid spray dust suppressant system. During recent site visits to facilities already using this system, AQMD staff observed no fugitive dust emissions during the unloading activity using drive-over grizzly and bottom-dump trucks; however, to many operations where unloading are done directly to stockpiles due to limited space, the drive-over grizzly may not be practical.

Telescopic Chute

Telescopic chutes are used to minimize the height that materials fall into open storage piles, thus, reducing PM emissions. The chute is attached to the transfer point of the conveyor and is usually cable-connected so a winch can lift the sections of the chute. The lower end of the chute should be kept clear of the top of the pile to reduce dust. The materials should be contained within the chute until discharged to within five feet from the top of the pile. The chute is extendable or retractable to adjust the distance between the top of the pile and the chute. To be effective, chutes are equipped with dust suppressant spray systems to knock down airborne dust. Staff has not found any telescopic chutes being used at aggregate and related operations; however, they

are currently used to reduce dust emissions at many coke and coal handling operations in California. Staff has observed the chutes to be effective in reducing PM₁₀ emissions at these operations.

Rumble Grate

A rumble grate is a wheel shaker device consisting of raised dividers (rails, pipe, or grate) of minimum three inches tall and six inches apart and 20 feet long. As a vehicle passes over the rumble grate, vibrations are produced to shake dust off the wheels. Rumble grates are currently utilized by some affected facilities in combination with wheel washers. Some cities in southern California such as Manhattan Beach require the use of these grates before dump trucks enter highways from a construction site.

Wheel Washer

A wheel washer system provides a thorough rinsing of the entire circumference of the tires and rims of a vehicle before a truck before it exits the facility to prevent track-out onto paved public roadways where PM₁₀ can be re-entrained into the air by other vehicles. Typically, a A sensor is used to activate the wheel washer before the truck/trailer enters, thereby ensuring that all four tires are in contact with the water spray. Installing a rumble grate before the wheel washer removes excessive dust from the tires and slows the speed of the truck/trailer so that the wheel washer can be most effective. Effective wheel washers are designed so that water runoff flows away from the truck/trailer, preventing re-entrainment of dust onto the tires.

Wheel washers are not technology-forcing dust control equipment as they are currently being used at several aggregate facilities as well as concrete batch plants in California. Some existing systems might need to be upgraded to improve their dust removal efficiency.

Rule 1186 Compliant Street Sweepers

One hundred and five aggregate and related operations out of 150 active facilities that responded to the surveys currently use street sweepers to remove dust generated by trucks and vehicles traveling from the unpaved roads to paved roads minimizing track-out emissions. However, their efficiency can be improved by implementing design requirements found in SCAQMD Rule 1186.

Truck Transport

California Vehicle Code 23114 currently requires that truck/trailers carrying aggregates maintain at least six inches of freeboard. PR 1157 requires that truck/trailers that are used to transport aggregates level and maintain at least six inches of freeboard prior to entering public roads or prior to the use of a rumble grate and/or wheel washer.

Effectiveness of Controls

All of the above-mentioned controls are effective if properly operated, maintained, and supervised. The expected effectiveness of dust control strategies is summarized in Table 1-2.

**Table 1-2
Control Strategies and Efficiencies**

Control Strategy	Control Efficiency
Watering/misting	60%
Watering and Sweeping	75%
Chemical dust suppressant	80% - 90%
Watering/misting with hooding at conveyor transfer point	75%
Rumble grate and wheel washer	80%
Covered screening equipment with watering/misting	90%

EMISSIONS AND EMISSIONS REDUCTIONS

Emissions Inventory

As described below, the total emissions inventory of facilities that would be subject to PR 1157 was developed from survey emissions.

Prior to the survey, the SCAQMD staff developed a baseline PM emissions inventory from the 2001-2002 Annual Emissions Reporting database for aggregate and related operations in the SCAQMD's jurisdiction. The preliminary baseline emission of 0.9 ton PM per day did not include PM emissions from associated unpaved roads, open storage piles, and track-outs. In addition, this preliminary baseline emission inventory was based only on data reported by a group of aggregate and related operations that generate a minimum of four tons of criteria pollutants per year. From work on dust control rules (Rules 1158, 403, and 1186), public nuisance complaints, and site visits, it is likely that total PM emissions from this industry were underestimated in the Annual Emissions Reporting database.

Based on the survey data, staff estimated PM₁₀ emissions for each facility and each category (i.e., aggregate, concrete batching, hot mix asphalt, concrete miscellaneous base, concrete batching, and "other"). Then staff scaled up the average PM₁₀ emissions generated by each category to estimate the baseline emissions inventory for the total number of aggregate and related operations in the district. Staff only used data from dry aggregate materials to calculate PM₁₀ emissions for each applicable activity and/or equipment (i.e., loading/unloading, hopper/surge bin, conveyor transfer point, crushing, screening, milling, silo, cement truck loading, HMA load-out, and open storage pile). Staff also estimated PM₁₀ emissions from unpaved roads and track-out.

Based on staff's evaluation, baseline PM₁₀ emissions for the aggregate and related operations are estimated to be 29 tons of PM₁₀ per day (58,000 pounds of PM₁₀ per day). The majority of the emissions come from unpaved roads, open storage piles, screening equipment, and conveyors. Table 1-3 summarizes the emissions profile for the affected industries.

Table 1-3
Baseline Process and Fugitive PM10 Emissions by Category

Category	Emissions (tons/day)			
	Process	Fugitive – Open Piles	Fugitive – Paved and Unpaved Roads	Total
Aggregate	6.36	1.67	8.61	16.64
Concrete Batching	2.87	0.07	0.17	3.11
Concrete Product	3.50	0.52	0.12	4.14
Crushed Miscellaneous Base	0.18	0.19	0.04	0.41
Hot Mix Asphalt (HMA)	1.16	0.93	0.52	2.61
“Other”	0.03	1.86	0.03	1.92
Total	14	5	9	29

Emissions Reductions

The emission reductions in the 2003 AQMP for control measure BCM-08 – Further Emission Reductions from Aggregate Operations (PM10) were estimated to be 0.7 ton per day by the year 2010 for the Basin. However, because the emissions in the 2003 AQMP inventory was likely understated; the emissions reductions reported by the 2003 AQMP are also likely understated.

Emission reductions have been assessed based on the following assumptions: (1) control efficiency of 20 percent for loading/unloading/transferring activities, conveyors, hoppers/surge bins, storage piles, and internal roads; (2) control efficiency of 90% for crushers and silos, and (3) control efficiency of 50% for screening equipment from the levels of controls currently employed by aggregate and related operations to comply with Rule 403. Staff used the same survey data used to enhance the PM10 emissions inventory for aggregate and related operations to estimate improved emission reductions. Based on the estimates revised by survey data, PR 1157 is expected to reduce 6,600 tons of PM10 per year or 18 tons per day of PM10 (36,000 pounds of PM10 per day) emissions based on the revised emissions inventory of 10,600 tons of PM10 per year or 29 tons of PM10 per day (58,000 pounds of PM10 per day) derived from the survey. Emissions reductions are expected to occur through the usage of chemical dust suppressants, misting/watering, covered screening equipment, and hooding at the conveyor transfer points, wheel washers and rumble grates, and sweeping paved roads.

Based on staff analysis, chemical dust suppressants are expected to achieve 80 to 90 percent control efficiency if they are prepared and used appropriately according to the manufacturers' suggestions (e.g., minimum application of two times per year). The control efficiency for watering/misting ranges from ~~50-60~~ to ~~80-75~~ percent, depending greatly on the usage frequency. According to the EPA study (AP-42, Chapter 13.2.2, December 2003), watering would be able to achieve a control efficiency of 75 percent if the moisture ratio is 2.0 (Moisture ratio is derived by dividing the surface moisture content of the watered road by the surface moisture content of the uncontrolled road). Therefore, emissions from aggregate and related industries would be

reduced to 4,000 tons per year or 11 tons per day (22,000 pounds of PM10 per day) through the use of dust control techniques required by PR 1157.

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 Rule 1157 – PM10 Emission Reductions from Aggregate and Related Operations

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: September 1, 2004

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 rule would be to reduce fugitive dust PM₁₀ emissions from aggregate (including stone crushing) and related operations (i.e., concrete batching, concrete product, miscellaneous base crushing, hot-mix asphalt plants, and construction/demolition debris landfills) in the district beyond the reductions already required by Rule 403. Requirements include:

- No dust emissions exceeding 20 percent opacity shall be generated from any activity, equipment, open storage pile, or disturbed surface area, based on an average of 12 consecutive readings, using the SCAQMD Opacity Test Method No. 9B.
- Less than five individual, consecutive discharges into the atmosphere, of fugitive dust emissions exceeding 50 percent opacity from any activity, equipment, storage pile, or disturbed surface area, using SCAQMD Opacity Test Method No. 9B, effective December 3, 2005.
- No dust plume exceeding 100 feet in any direction shall be generated from any activity, equipment, open storage pile, or disturbed surface area.
- Prompt removal of Any pile of material spillage on any internal paved roads shall not be allowed. Alternatively, piles of material spillage may be maintained in a stabilized condition with chemical stabilizers dust suppressants and removed at the end of the day.
- All other piles of material spillage and carry-back not on internal paved roads shall be maintained in a stabilized condition with chemical stabilizers. Carry-back are the dry materials that fall off the underside of the conveyor belt and accumulates on the ground.
- Sufficient application of dust suppressants or other dust control methods approved by the Executive Officer to minimize PM₁₀ emissions from non-exempt materials shall be used at each emission source as necessary to meet the opacity, consecutive discharge, and dust plume performance standards stated previously.

Control strategies for all facilities include: dust suppression for loading, unloading and transfer points, at conveyors, crushing equipment, screening equipment; open storage piles, and internal unpaved haul roads ~~ways for haul, unpaved non-haul roads trucks and other vehicles;~~ and sweeping and ~~cleaning~~ watering of paved roads. Crushing and screening equipment ~~may~~ shall use baghouses to control dust. Effective December 3, 2005, Rumble grates and wheel washers would be required for existing facilities that are in excess of 50 acres or with 60 aggregate and/or mixer truck trips exiting the facility on any day. Effective December 3, 2005, a rumble grates, wheel washers or truck washer is required at all other facilities. An operator of a facility/operation with a minimum of 60 aggregate and/or mixer trucks exiting the facility on any day shall sweep the internal paved roads with a street sweeper. Operators with less than 60 aggregate and/or mixer trucks exiting the facility on any day shall sweep the internal paved roads with a street sweeper by the end of every other work day. On the days sweeping does not occur, the operator is required to water as necessary to comply with opacity, consecutive discharge, and dust plume performance standards stated previously. Sweepers purchased after December 3, 2004 are required to be Rule 1186-certified.

In addition to the standard requirements for all facilities, PR 1157 control strategies for new facilities include: ~~BACT for loading and unloading;~~ rumble grates and wheel washers for facilities that are in excess of 25 acres or with a designed daily throughput of 750 tons,

Rule 1186-compliant street sweepers. ~~BACT for loading and unloading is currently required and considered water application.~~

~~Recurrent violations Bump-up~~ requirements are included for facilities that located within 500 meters of off-site occupied buildings, houses or sensitive receptors, that accrue three or more ~~approved-validated~~ notices of violation for causing or allowing fugitive dust emissions that exceed 20 percent opacity, ~~five individual consecutive discharges into the atmosphere of fugitive dust exceeding 50 percent opacity,~~ or fugitive dust plumes that exceed 100 feet in any direction, issued on separate dates for a given emission source at the facility in any ~~three-continuous~~ twelve month period calendar years. ~~The bump-up requirements apply only to the source of violation. Control strategies for specific sources at facilities captured by the bump-up include chemical dust suppressants for loading and unloading, telescopic chutes, water irrigation systems for the entire surface of the pile, and paving of internal unpaved roads. Facility operator/owners captured by the recurrent violation requirements would need to submit an emissions reductions plan. The plan must propose additional emission control measures sufficient to remedy the causes of the recurrent violations and prevent future violations. The plan must also provide for implementation of the specified additional control measure at the earliest practicable date.~~

PR 1157 would increase the amount of water and chemical dust suppressants used to stabilize fugitive dust at affected facilities. PR 1157 related construction of rumble grates, wheel washers, screen enclosures, baghouses, ~~chutes,~~ and paving roads would increase criteria air pollutants during construction activities. However, as explained below neither increase would be significant. No other adverse environmental impacts were identified in this analysis.

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

a) through d) PR 1157 does not require the construction of any building, structure or other edifice that could obstruct views of scenic resources. Enclosures for screens, chutes, baghouses, dust suppressant application, rumble grates and wheel washers may need to be added, and roadways may need to be paved; however, these changes to existing equipment at existing facilities would not change the visual characteristics in the vicinity of the affected facilities. Aesthetics from dust control equipment at new facilities would be addressed in the CEQA document for the new facility. PR 1157 does not, in any way, require construction of any new aggregate facilities. Adoption of the proposed rule would further control fugitive dust emissions in the district, which would fulfill PM10 SIP commitment requirements. Implementing the proposed rule may improve aesthetics by reducing dust that may obstruct or damage scenic vistas thereby improving visibility. Further, implementing dust control measures at night would only be necessary if an affected facility operates at night already. 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 to have a significant adverse impact on aesthetics. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) and c) PR 1157 would reduce PM10 emissions from aggregate and related operations. 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 rule would reduce PM10 emissions from aggregate and related operations in the district. The proposed rule has no effect on, and would not conflict with existing zoning or any Williamson Act contracts.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on agricultural resources. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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?	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☒	☐
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 will be considered significant.

Table 2-1
Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TACs, Acutely Hazardous Materials, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants		
NO ₂ 1-hour average annual average	20 ug/m ³ (= 1.0 pphm) 1 ug/m ³ (= 0.05 pphm)	
PM10 24-hour annual geometric mean 24-hour construct	2.5 ug/m ³ 1.0 ug/m ³ 10.4 ug/m ³	
Sulfate 24-hour average	1 ug/m ³	
CO 1-hour average 8-hour average	1.1 mg/m ³ (= 1.0 ppm) 0.50 mg/m ³ (= 0.45 ppm)	

PM₁₀ = particulate matter less than 10 microns in size; NO₂ = Nitrogen Oxide, CO = Carbon Monoxide, VOC = Volatile Organic Compounds, SO_x = Sulfur Oxide; ug/m³ = microgram per cubic meter; pphm = parts per hundred million; mg/m³ = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant.

DISCUSSION

(a) 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 rule fulfills AQMP commitments to obtain further PM₁₀ emission reductions from aggregate and related operations, and would assist the SCAQMD in its efforts to attain state and federal PM₁₀ air quality standards. Because the proposed project implements control measure BCM-08 in the 2003 AQMP, it furthers rather than hinders implementation of the applicable AQMP. The direct effect of implementing PR 1157 is a reduction in PM₁₀ fugitive dust emissions by 18 tons of PM₁₀ per day (36,000 pounds of PM₁₀ per day). Indirectly, PR 1157 is also expected to reduce the number nuisance complaints from the public relative to aggregate and related facilities by reducing PM₁₀ emissions.

(b), (c) and (f) While the proposed rule is designed to reduce PM₁₀ emissions, there is the potential for adverse secondary air quality impacts associated with exhaust emissions from construction operations.

Construction Activity Impacts

PR 1157 may require construction to install misting or water irrigation systems, enclosures for screens, chutes, baghouses, and rumble grates and wheel washers, and pave on-site roads. The following subsections describe construction activities that may occur to install dust control equipment. Detailed construction assumptions, methodology, and calculations are presented in Appendix C.

Existing Facilities

Construction of Misting and Water Irrigation Systems

Most facilities are assumed to have some form of misting or dust suppression for these operations as part of compliance with Rule 403. Construction for additional misting or water irrigation systems for dust suppressants at transfer points in process equipment, paved roads and/or storage piles would consist of installing nozzles, piping, pumps and electronic instrumentation. This equipment would be attached to existing structures or support structures would be built to support the equipment. Neither, heavy construction equipment nor earthmoving operations are expected to be used to install misting systems for dust suppressants; therefore, construction of misting and water irrigation systems is not expected to generate construction emissions.

Construction of Dust Control for Screening and Crushing Operations

PR 1157 requires baghouses for crushing and screening equipment or dust suppressants at the feed stream and discharge points. If operators choose to use baghouses for screening equipment, the operator is also required to enclose the screening equipment. Based on discussions with

industry operators, operators would choose to use dust suppressants instead of installing baghouses, because of advances in dust suppressants that are effective even for materials that are crushed, and using dust suppressants would be more cost effective than installing and maintaining a baghouse. Additionally, dust suppressions systems would be required for the conveyers associated with the screening and crushing operations. Therefore, since no baghouses are expected to be constructed at existing facilities to comply with PR 1157 and misting systems are assumed to have negligible or no emissions, no construction emissions are anticipated as a result of controlling fugitive dust from crushing and screening operations.

Construction of Silos or Bunkers

PR 1157 provides the option of enclosing storage piles within silos or bunkers instead of stabilizing storage pile surfaces. However, operations that use bunkers would still be required to stabilize the exposed surface. Based on discussions with facility operators, it is believed that facilities would not build silos or bunkers to comply with PR 1157.

Construction of Rumble Grates and Wheel Washers

Installation of Rumble Grates and Wheel Washers at Large, Active or Permanent New Sites

Rule 403 contains track-out requirements that require facilities with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material to install a rumble grate or wheel washer, or pave or use washed gravel to stabilize unpaved roads connecting to public roadways by January 1, 2005. PR 1157 requires that operators at new facilities larger than 25 acres or with a design capacity of 750 tons per day or existing facilities ~~with an excess of 50 acres or with 60 or more aggregate and/or mixer truck trips exiting the facility on any day to install rumble grates and wheel washers no less than 30 feet from each exit that is used by aggregate and/or mixer trucks and leads to a paved public road.~~ The proposed rule also requires that the road between the rumble grates and wheel washers, and the public road be paved. Operators at some large facilities have already installed or intended to install rumble grates and/or wheel washers, and pave onsite roadways to comply with Rule 403 requirements.

Installation of Rumble Grates, or Wheel Washers or Truck Washes at All Other Permanent Sites

All other aggregate and related operations would be required to install and utilized a rumble grate, or a wheel washer or a truck washer no less than 30 feet from each exit that is used by aggregate and/or mixer trucks and leads to a paved public road. Unpaved facilities would be required to apply one-inch or larger wash gravel maintained to a depth of six inches to no less than 30 feet prior to each exit leading to paved public roads.

Installation of Rumble Grates and Wheel Washers That Do Not Require Construction

Not all facilities would require construction to install both rumble grates and wheel washers. SCAQMD staff contacted one vender who can install rumble grates and wheel washers over the paved road without disturbing the road or requiring earthmoving operations. This option would be available to facilities that currently have paved roads leading to public roadways, and since it is less expensive it is assumed that operations with paved roads would choose this option. Emissions from facilities that install rumble grates and wheel washers over a paved road without disturbing the road or requiring earthmoving operations are considered negligible and do not contribute to construction emission impacts.

It was assumed that facilities that require only rumble grates would not require any construction, since rumble grates can be installed on dirt and do not require grading or paving.

Installation of Rumble Grates and Wheel Washers That Require Construction

In the draft EA Since track-out provisions for Rule 403 are not required until January 1, 2005, to be conservative, it was assumed that all affected facilities (new facilities larger than 25 acres or with a design capacity of 750 tons per day or existing facilities with an excess of 50 acres or with 60 or more aggregate and/or mixer truck trips exiting the facility on any day) would need to pave 30 feet from the rumble grates and wheel washers to the public roadway. In addition since few facilities have both rumble grates and wheel washers, it was assumed for this the draft EA analysis that all affected facilities (new facilities larger than 25 acres or with a design capacity of 750 tons per day or existing facilities with an excess of 50 acres or with 60 aggregate and/or mixer truck trips exiting the facility on any day) would require rumble grates and wheel washers. Based on staff estimates from the survey data, it was assumed that 100 rumble grates and wheel washers would be required by PR 1157 in the Draft EA (see Appendix C).

However, since the current version of PAR 1157 does not include a land size provision in the rumble grate and wheel washer requirement for existing facilities/operations, staff now estimates only 102 facilities would require wheel washers and rumble grates. Some facilities reported in the surveys that they currently have wheel washers (as a control measure to reduce track-out to comply with Rule 403 requirements). The estimated number of facilities was developed from the assumption that 20 percent of the facilities currently have wheel washers. Based on this information and the scaling methodology used by staff, it was estimated that 80 facilities would need wheel washers to comply with PR 1157 requirements. Eleven facilities reported that they have two exits; therefore, staff estimates that a total of 91 (80+11) wheel washers and rumble grates.

In order to comply with PR 1157, if a facility has unpaved roads leading to public roadways, it was assumed that 70-60 feet of unpaved road would need to be disturbed to install the wheel washer and rumble grate and pave the road from them to the public roadway: 10 feet of road would need to be paved before between the rumble grate and wheel washer, 30-20 feet would need to be paved for the rumble grate and wheel washer; and 30 feet of road would need to be paved between the rumble grate and wheel washer and the public roadway. It was also assumed that two cubic yards of dirt would be handled.

PR 1157 allows ~~nine~~ twelve months for affected facilities to install rumble grates and wheel washers, it was estimated that 10 percent of the affected facilities (~~100~~ 91 facilities x 10% = 10 facilities) would grade, pave and install rumble grates and wheel washers on the same day. This number of facilities operators that choose to install rumble grates and wheel washers requiring construction, likely overestimates the actual number that would be installed on any one day because most large facilities are already paved and it is likely that large facility operators would install rumble grates and wheel washers that do not require construction for installation. Emission estimates from these operations can be found in Table C-1 of Appendix C. Grading and paving for the installation of ten rumble grates and wheel washers would generate 80 pounds of NOx per day, 10 pounds of VOC per day, 50 pounds of CO per day, five pounds of SOx, per day and 10 pounds of PM10 per day. Construction emissions to install 10 rumble grates and

wheel washers are presented in Table 2-2. Emissions generated by construction of the 10 rumble grates and wheel washers with one storage pile enclosure would be below the significance criteria presented in Table 2-1.

Table 2-2
Construction Impacts from Installation of Ten Rumble Grates, Wheel Washers
Prior to August 1December 3, 2005

Sources	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Ten Rumble Grates, Wheel Washers and Paving	50	10	80	8	10
Construction Significance Threshold	550	75	100	150	150
Exceed Significance?	NO	NO	NO	NO	NO

Potential Construction Triggered by Recurrent Violations~~Required by the Bump-up Provision~~
 Recurrent violations ~~bump-up~~ requirements are included in PR 1157 for facilities that are located within 500 meters of off-site occupied buildings, houses or sensitive receptors, that accrue three or more validated notices of violation during any ~~three~~ continuous twelve month period ~~calendar years~~ for causing or allowing fugitive dust emissions that exceed 20 percent opacity or fugitive dust plumes that exceed 100 feet in any direction, ~~issued on separate dates for a given emission source at the facility in any three continuous calendar years.~~ The ~~bump-up~~ requirements ~~apply only to the source of violation.~~ Facility operator/owners captured by the recurrent violation requirements would need to submit an emissions reductions plan. The plan must propose additional emission control measures sufficient to remedy the causes of the recurrent violations and prevent future violations. The plan must also provide for implementation of the specified additional control measure at the earliest practicable date. It is speculative at this time to assume facilities would become subject to the recurrent violations ~~bump-up~~ provisions, since not all facilities are located within 500 meters of off-site occupied buildings, houses or sensitive receptors, and all violations would have to be for one source over three years. It is also speculative to assume that operators of affected facilities would violate PR 1157. Further, it is speculative to assume that more than one facility would violate PR 1157 in the same three year period, thus, requiring ~~installation of PM10 control measures emissions reductions~~ at the same time. Finally, based on current SCAQMD records no facility has received three violations for the same process within a ~~three~~ one year period; therefore, it can be concluded that ~~bump-up recurrent violation provision~~ would rarely be triggered. Therefore, because it is speculative at this time that any affected facilities would become subject to bump-up provisions in PR 1157, no evaluation of potential construction impacts is possible and, consistent with CEQA Guidelines §15145, this discussion is terminated.

New Facilities

Construction at New Facilities

PR 1157 does not require construction of new aggregate facilities, but in the event new aggregate facilities are constructed, emissions from new facilities subject to PR 1157 would be lower than emission from new facilities not subject to PR 1157, because new facilities would have to use Rule 1186-certified street sweepers, ~~apply BACT to loading, and unloading, and transfer points,~~

and install rumble grates and wheel washers for facilities larger than 25 acres or with a design capacity of 750 tons per day, in addition to the provisions required at existing facilities. BACT for loading and unloading is currently required and considered water application. After adoption of PR 1157, any construction of new aggregate facilities would occur for reasons unrelated to PR 1157. Like any new land used project, a new aggregate 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 new facilities.

Operational Activity Impacts

Sweeper and Water Trucks

Under Rule 403 operators at affected facilities are now required to control dust from unpaved roads and prevent and remove dust from paved roads. Currently, facilities use watering trucks to control dust from unpaved roads, and both watering trucks and sweepers to control dust from paved roads. PR 1157 specifies the use of chemical dust suppressants on unpaved roads; and watering, cleaning and/or sweeping of paved roads after each shift for facilities with 60 or more aggregate and/or mixer trucks exiting the facility on any work day. Facilities with less than 60 aggregate and/or mixer trucks exiting the facility per work day would be required to sweep streets by the end of every other work day. Chemical dust suppressants often require water to reactivate them, however, the frequency of water application is less than, if water was used alone for dust suppression.

Watering two to three times per day is considered sufficient to suppress dust on unpaved roads. It can also be assumed that each additional shift would require one watering, since only one shift typically occurs during the hottest part of the day and the remaining shifts occur during the evening or morning hours. Roads that are stabilized by chemical stabilizers can be assumed to require only one watering per day to sufficiently control dust. Therefore, the requirement to use chemical dust stabilizers would decrease the number of water truck trips by one to two trips for a single shift facility, two to three trips for a two-shift facility, and three to four trips for a three hour facility.

~~One hundred and five facilities out of 150 active facilities that responded to the survey indicated the use of sweepers, which is about 70 percent. A facility that has a sweeper would only require an additional trip if the facility has more than one shift and sweeps less times than the number of shifts. That is a facility with one shift would already be sweeping once, but may require an additional sweeping per shift. However, facilities without sweepers would be required to obtain or lease a sweeper to sweep after each shift under PR 1157. Therefore, the number of sweeper trips at a facility without a sweeper could increase by one for a one shift facility, two for a two shift facility or three for a three shift facility. The Draft EA contained an estimate of the number of facilities that would be required, if all facilities were required to sweep paved roads after each shift. PAR 1157 was revised to require sweeping of paved roads only at facilities with 60 or more aggregate and/or mixer trucks leaving the facility per day. All other facilities would be required to sweep paved roads by the end of every other work day. Based on this change, staff re-evaluated the number of facilities that would be required to sweep paved roads. Staff estimates that 94 facilities would need to sweep paved roads at the end of each work shift and 252 facilities would need to sweep paved roads by the end of every other work day. However,~~

some facility operators reported that they currently sweep paved roads. Based on the surveyed information and scaling this information to the number of affected facilities, staff estimated that 38 facilities would need to sweep paved roads daily and 154 facilities would need to sweep every other work day to comply with PR 1157. Facilities that sweep every other work day would be required to water 100 feet or more of paved roads on the days sweeping is not required.

Based on this information it is still believed that the emissions from the additional sweeper trips would be less than the emissions from the reduced number of unpaved road water trucks for the following reasons:

- Paved road lengths are typically shorter than the unpaved road lengths.
- Roads stabilized with chemical dust suppressants require less water; therefore, less water truck trips.
- The Draft EA evaluated the August 27, 2004 version of PR 1157, which required all facilities to sweep after every shift. The current version of the rule only requires facilities greater than 60 aggregate and/or mixer trucks per day to sweep after each shift. At all other facilities operators are required to sweep every other work day and water on days they do not sweep.

A comparison between the current daily vehicle miles traveled and the daily vehicle miles estimated to comply with PR 1157 is presented in Table 2-3. Since the number of additional sweeper/water truck trips-miles traveled would be less than or equal to the number of water truck trips-miles traveled reduced by applying chemical stabilizers instead of water, the operational emissions at aggregate or relate facilities would remain the same or decrease. Therefore, no adverse air quality impacts from sweeper trucks are expected.

Table 2-3
Daily Vehicle Miles Traveled for Road Dust Suppression

<u>Description</u>	<u>Number of Facilities^a</u>	<u>Road Length^a, feet</u>	<u>Road Width^a, feet</u>	<u>Number of Passes per Trip^b</u>	<u>Number of Daily Trips^a</u>	<u>Daily Vehicle Miles Traveled</u>
<u>Existing Operations</u>						
Unpaved Roads, Water	389	474	30	2	2	139.8
<u>Existing Total</u>	-	-	-	-	-	<u>139.8</u>
<u>PR 1157 Operations</u>						
Unpaved Roads, Chemical/Water	389	474	20	2	1	69.9
Paved Roads Sweeper ^c	30	100	20	1	1	0.6
Paved Roads Sweeper ^c	8	100	20	1	2	0.3
Paved Roads Sweeper/Water Truck ^c	154	100	20	1	1	2.9
<u>PR 1157 Total</u>	-	-	-	-	-	<u>73.7</u>

a) Draft Staff Report Proposed Rule 1157: PM10 Emission Reductions from Aggregate and Related Operations, November 2, 2004.

b) Number of passes per trip based on road width and assuming 20-foot spray width

c) The number of facilities only includes facilities that are not currently sweeping or watering because of Rule 403.

Chemical Stabilizer Delivery Truck Trips

It was assumed that a large facility would need one delivery of chemical stabilizers a week to comply with PR 1157. Large facilities were assumed to be the ~~92-91~~ facilities that would require rumble grates and wheel washers. Since there are 395 affected facilities, the remaining ~~303-304~~ facilities ($395 - 92-91 = 303-304$) were assumed to need one delivery every other week, which is 152 trips per week (~~303-304~~ trips/2). Therefore, ~~244-245~~ delivery truck trips would be required per week ($92-91 + 152 = 244-245$). Assuming that facilities operate six days per week, 41 trips per day (~~244-245~~ trips per week/6 days per week = 41 trips) would be needed to comply with PR 1157. Detailed emission calculations are presented in Table C-2 of Appendix C. Estimated emissions from truck delivery of chemical stabilizers are presented in Table 2-4. Operational emissions generated by chemical stabilizer delivery truck trips would be below the significance criteria presented in Table 2-1.

Table 2-4
Operational Emissions from Chemical Stabilizer Delivery Trucks

Sources	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Delivery Truck Trips	9	3	48	0.6	1
Operational Significance Threshold	550	55	55	150	150
Exceed Significance?	NO	NO	NO	NO	NO

Conclusion

The intent of the proposed rule is to further reduce PM10 fugitive dust emissions in the district. The implementation of control measures would be accomplished through the adoption of PR 1157. As previously noted, the direct effect of implementing the PR 1157 is a reduction in PM10 fugitive dust emissions by 18 tons per day (36,000 pounds of PM10 per day). Secondary emissions from construction and operational activities may increase emissions; however, as shown above, the secondary emissions are below the significant thresholds for construction and operation.

As a result of the above, the proposed project is not expected to violate any air quality standards, contribute to an existing or projected air quality violation, result in a cumulatively considerable net increase of any criteria pollutant, or diminish an existing air quality rule or future compliance requirement.

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 sensitive receptors to PM10 concentrations, thereby improving public health. The ~~bump-up~~ recurrent violation provision was placed in PR 1157 specifically to protect sensitive receptors.

e) The proposed project may require an incremental increase in the application of fugitive dust control measures, which would result in an incremental increase in emissions during construction operations. Odors are often associated with diesel emissions. 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 is not expected to cause significant adverse air quality impacts. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	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?	☐	☐	☒
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?	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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

(a) and (b) In general, the net effect of PR 1157 would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities in the district. In particular, PR 1157 would expand BACM requirements and dust control requirements for aggregate practices at existing facilities in the district. Construction of new aggregate facilities would be expected to occur regardless of adoption of PR 1157 and, therefore, is unrelated to PR 1157. There are no provisions in the proposed 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 PM10 control measures outlined in the proposed rule. No riparian habitat or other sensitive natural community would be affected by PR 1157. Implementing the proposed rule may improve wildlife habitats by reducing dust that may obstruct or damage these areas.

(c) The proposed rule is expected to incrementally increase existing efforts at existing facilities in the district to control PM10 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) Minor construction to install misting or dust suppressants, screen enclosures, ~~chutes~~, wheel washers, rumble grates, and paving roadways from rumble grates and wheel washers to public roads is anticipated to occur at existing affected facilities. The proposed rule is expected to incrementally increase existing efforts in the district to control PM10 emissions. There are no provisions in the proposed 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.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on biological resources. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) through d) In general, the net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at existing aggregate and related operations across the district. The proposed rule would expand existing fugitive dust requirements for existing aggregate operations. The proposed 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 existing aggregate and relate operation facilities in locations that have been previously disturbed (i.e., roads, storage piles, existing equipment). No changes to historic, archaeological or paleontological resources or unique geologic features are required upon implementation of the proposed rule. The proposed project does include provisions that require construction or other activities that require site preparation activities such as grading or earth movement on existing unpaved roads from rumble grates and wheel washers to public roads at facilities ~~over 50 acres in size or~~ with 60 aggregate and/or mixer truck trips exiting facilities. Site disturbance from construction activities is currently subject to the dust control requirements of Rule 403. PR 1157 directly affects dust control or existing facilities, which are located on previously disturbed land. As a result, 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 to have a significant adverse impact on cultural resources. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) through e) In general, the net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule clarifies and enhances the enforceability of existing control measures to reduce PM10 fugitive dust and is expected to contribute to efforts to bring the district into attainment with state and federal air quality standards. There are no provisions within the proposed 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.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on energy resources. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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? | ☐ | ☐ | ☒ |

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☒
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

a), c), & d) The proposed rule is intended to reduce PM10 fugitive dust emissions. Dust control activities would occur at existing facilities, so any risks associated with ground shaking, etc., are existing risks. Any structure built to comply with PR 1157 (screen enclosures, baghouses, ~~chutes~~, and dust suppressant equipment) 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 proposed rule does not require the construction of any building or new structures that could be located on an unstable geologic unit or on expansive soil, which could create substantial risks to life or property, but may require additional control to be applied to existing equipment.

b) The proposed 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 at facilities that pave roadways from the rumble grate and wheel washer to public roads. In addition, these disturbances would occur at existing roads which were previously disturbed and would advance

the proposed project goal of enhancing current requirements to stabilize any soil disruptions specifically to prevent wind erosion that contributes to PM10 emissions.

c) Accordingly, the installation of add-on controls at existing affected facilities 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. 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.

e) The proposed rule does not include any provisions that require the installation of septic tanks or alternative wastewater systems. Therefore, there is no possibility of installation of water disposal systems in soils incapable of supporting them. Wastewater from wheel washers is expected to be diverted to existing retention ponds, which are currently used to wash rock and for process cooling.

Based on the above discussion, the proposed project is not expected to have an adverse impact on geology or soils. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) through c) In general, the net effect of PR 1157 would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule clarifies and enhances the enforceability of existing control measures to reduce PM₁₀ fugitive dust, which will assist with efforts to bring the district into attainment with state and federal air quality standards. There are no provisions in the proposed 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.

Some of the dust control provisions in PR 1157 may incrementally increase the use of chemical stabilizers to control fugitive dust. Previous environmental analyses prepared by the SCAQMD concluded that nontoxic chemical stabilizers are available. PR 1157 defines chemical dust suppressants as non-toxic, which must not be used if prohibited for use by the Regional Water Quality Control Boards; the California Air Resources Board; the U.S. EPA; any applicable law, rule or regulation; and should meet any specifications, criteria or test required by the federal, state or local water agency. Further, it is the responsibility of the users to ensure that any chemical dust suppressant they use is not prohibited for use by the Regional Water Quality Control Boards; the California Air Resources Board; the U.S. EPA; any applicable law, rule or regulation; and should meet any specifications, criteria or test required by the federal, state or local water agency. The primary affect expected as a result of using chemical dust suppressants is the potential for groundwater contamination. This effect is discussed in detail under “IX. Hydrology and Water Quality.” As a result, it is not expected that any incremental increase in the use of chemical stabilizers would expose users or the public to hazardous materials.

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

e) & f) The proposed project does not involve the use of hazardous materials that could adversely affect air traffic or safety. Therefore, even affected projects located within an airport land use plan, within two miles of a public airport or within the vicinity of a private airstrip are not expected to generate significant adverse hazards or hazardous materials impacts on air traffic or safety.

g) The proposed rule is intended to reduce PM₁₀ fugitive dust emissions and contain no provisions that could interfere with any adopted emergency response or evacuation plans.

h) & i) Any construction as a result of PR 1157 would occur on existing aggregate or related operation facilities. The proposed 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 rule does not require or involve the use of flammable materials that could increase fire hazards in areas with flammable materials.

During working group meetings with the aggregate and related industries, working group members stated safety concerns associated with retrofitting conveyors with control technologies such as enclosures and telescoping chutes. The working group's concern only applies to existing equipment, since new equipment can be built to accommodate enclosures or telescoping chutes. Working group members stated that conveyors are built specifically for the material transported on them and that conveyors may not be able to support enclosures or telescoping chutes because they are heavy and unwieldy to use. As a result, because the telescopic chutes are so unwieldy and depending on the aggregate material being conveyed, clogging of the chutes could occur creating unsafe conditions for the workers. The working group was also concerned because these technologies have not typically been used by the aggregate and related industries. The CEQA environmental checklist does not specifically address mechanical safety issues that may affect workers; however, such issues are addressed here so that decision makers and the public are aware of these issues and can better evaluate hazards impacts to worker from mechanical issues.

After this concern was raised, staff considered the issue and modified the proposed rule as follows to eliminate the safety issues raised. First, the exemption section has been modified to include an exemption from paragraphs (d)(1) through (d)(6) for materials larger than one-half inch sieve. Second, the requirement for covered conveyors has been removed. Third, subparagraph (d)(3)(B) has been modified to delete the provision requiring telescopic chutes. ~~Instead, this provision requires installation of a simple chute, which is lighter, shorter, and much more flexible to use.~~ Telescopic chutes are no longer included in the ~~bump-up-recurrent violations~~ provision. ~~;~~ ~~however,~~ And as stated in the Air Quality Section, it is speculative to assume at this time that any affected facility will become subject to the ~~bump-up-recurrent violations~~ provision in the future, based on the fact that, as of this date no aggregate or related operation has had three approved notices of violation for causing fugitive dust emissions from the same process over ~~three a consecutive calendar years~~ twelve month period. Therefore, it is anticipated that the three modifications to PR 1157 will address and eliminated the safety concerns, i.e., clogging previously raised by working group members.

Based on the above discussion, the proposed project is not expected to create a hazard or hazardous materials impact. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. 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

There are potential water resource impacts that may be generated by incrementally increasing dust control requirements throughout the district. The project-specific impacts are divided into two major impact categories - water quality and water demand.

Potential Water Quality Impacts from Chemical Dust Suppression

a), f), k), l) & m) The following paragraphs describe the characteristics of chemical dust suppressant and their potential to adversely affect groundwater or surface water. (The SCAQMD does not endorse any particular product, but does encourage the use of environmentally safe chemical dust suppressants.) It should be noted that although many of these products and control measures required for dust control are in existing SCAQMD regulations, the analyses in this document are based on overly conservative assumptions.

Petroleum-Based Dust Suppressants: Witco, the manufacturer of petroleum-based chemical dust suppressants COHEREX and COHEREX-PM, has stated, "Although COHEREX has been used for more than forty years and COHEREX-PM is a polymer modified version of this product, we have not experienced any problems of groundwater contamination by the application of COHEREX or COHEREX-PM." The manufacturer goes on to state that the deepest penetration into the soil's surface ranges from 1 3/4 inches to two inches. According to the manufacturer, this would be true even if the product were over-applied because of the ability of the product to create a barrier that limits deeper penetration into the treated soil (Escobar, 1991). This means that this type of chemical dust suppressant would not be expected to migrate through the soil to even the shallowest of aquifers, which, on the average, are generally 10 feet or more below the surface in the district.

Chloride-Based Dust Suppressants: The manufacturer of a magnesium chloride-based product, Leslie Salt, has indicated that its product, "Dust-Off", is a moderately concentrated salt solution containing certain trace metals such as cadmium, chromium (III and VI), lead, etc. However, these metals are present in amounts that are several orders of magnitude below the Total Threshold Limit Concentration Level (Title 22, List of Organic and Bioaccumulative Substances and Their Total Threshold Limit Concentration Values) for each metal. In a report prepared for

Leslie Salt by McLaren Engineering in 1989 (Leslie Salt, 1989), it was noted that "The behavior and environmental fate of "Dust-Off" following any given application is site-specific... The potential for migration of "Dust-Off"is a function of site characteristics including climate (wind and rain), soil type, topography (slope or exposed surface and surrounding area), proximity to surface drainages (streams and intermittent drainages), depth to bedrock and depth to groundwater." The report concludes that "the salt concentration in the leachate percolating through the soil becomes significantly diluted due to dispersive transport. Therefore, the amount of dissolved salts from "Dust-Off" that could potentially enter a groundwater system depends on the location of the water table, the quantity of "Dust-Off" applied, and the number of years of application."

Another manufacturer of a magnesium chloride product, South Western Sealcoating, Inc., indicated that magnesium chloride has been used for years by the mining industry on haul roads and provided documentation of permission to use magnesium chloride from the Colorado River Basin Regional Water Quality Control Board (RWQCB) (Khan, 1991). The Arizona Department of Environmental Quality, Office of Water Quality gave similar permission for the use of magnesium chloride dust suppressants (Sobchak, 1989).

It is important to note that the RWQCB for the Colorado River Basin - Region 7, reviews applications for use of brine-based chemicals (i.e., calcium chloride and magnesium chloride) for dust control on a case-by-case basis (Gruenberg, 1994). This RWQCB conditionally approved the use of Lee Chemical, Inc's. Liquid Calcium Chloride in Colorado River Basin, Region 7, provided the Best Management Practices identified by Lee Chemical, Inc. are adhered to (Gruenberg, 1996).

Implementation of the proposed rule may result in an incremental increase in the use of chemical dust suppressants for PM10 control. Any increase is expected to be relatively limited for two reasons: 1) in most cases, other control methods are available, and 2) chemical dust suppressants are often already used for fugitive dust control and required in existing rules, regulations and local programs.

Previous environmental analyses prepared by the SCAQMD concluded that nontoxic chemical stabilizers are available. PR 1157 defines chemical dust suppressants as non-toxic. PR 1157 also states that chemical dust suppressants must not be used if prohibited for use by the Regional Water Quality Control Boards; the California Air Resources Board; the U.S. EPA; any applicable law, rule or regulation; and should meet any specifications, criteria or test required by the federal, state or local water agency. Further, it is the responsibility of the users to ensure that any chemical dust suppressant they use is not prohibited for use by the Regional Water Quality Control Boards; the California Air Resources Board; the U.S. EPA; any applicable law, rule or regulation; and should meet any specifications, criteria or test required by the federal, state or local water agency. Therefore, any potential adverse impacts would be insignificant. As the background information provided above indicates, potential users of chemical dust suppressants should contact local RWQCBs to determine whether or not a product is environmentally safe. RWQCBs evaluate MSDS and other information as appropriate and examine the areas to be sprayed if necessary. RWQCBs do not typically maintain a list of chemical dust suppressants, but evaluate the use of chemical dust suppressants on a case-by-case basis. Users are required to

ensure that runoff does not migrate to a surface body of water, or if the dust suppressant is used in liquid form, that it does not flow from the use-area.

According to the RWQCB, Colorado River Basin, Region 7 (from Phil Gruenberg, Executive Officer) in a November 10, 1994 letter to the SCAQMD, the chemical and physical properties of the non-brine products indicate that the risk to water quality would be minimal. In addition, as currently required in Rule 403, local RWQCB's should be consulted before use of any chemical dust suppressant to ensure that the product has not been prohibited. Users must apply chemical dust suppressants in accordance with manufacturers' and RWQCB recommendations to ensure that water quality is protected.

The proposed rule does not have any provisions that affect an existing affected facility or site's production of wastewater or discharge infrastructure. As a result, the proposed project would not be expected to cause any facility to exceed wastewater treatment requirements of any applicable regional water quality control board. Similarly, since the proposed project has no effect on production of wastewater at any affected site or facility, construction of new, or expansion of existing wastewater treatment plants or storm water drainage facilities is not expected as a result of adopting and implementing the proposed rule. Therefore, the proposed project would not generate significant adverse impacts to water quality.

Potential Water Demand Impacts from Dust Suppression

b), n) & o) The proposed rule is intended to reduce windblown dust from earth-moving, disturbed surface areas, paved road track-out, unpaved roads, and open storage piles at aggregate and related operation facilities. As noted in previous discussions, implementing the proposed rule could incrementally increase application of dust control measures throughout the district.

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, 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.

Facilities affected by PR 1157 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 rule would create an incremental additional demand for water in dust suppression activities. Water could be used by itself for wet suppression, or in conjunction with certain chemical dust suppressants.

Additional water consumption would be required for wheel washers, storage piles and at transfer points in the aggregate and related processes. Water consumption estimates were derived for these operations from data collected from facility surveys and dust control vender estimates.

Wheel Washer Water Consumption

By scaling survey data, staff estimated that 92–91 facilities would require rumble grates and wheel washers (see Appendix C). Using the same methodology of scaling the survey data by the

total number of facilities in the district that ~~are in excess of 50 acres in size or~~ have 60 aggregate and/or mixing truck trips exiting the facilities per day, staff estimated that a total of ~~12,859~~ 10,035 trucks would exit all affected facilities with rumble grates and wheel washers. Staff multiplied the number of trucks by a water use factor supplied by a vendor⁶ (~~12,859~~ 10,035 trucks x 40 gallons of water per truck); therefore, an additional ~~514,000~~ 401,400 gallons per day of water would be required by PR 1157 for rumble grates and wheel washers.

Open Storage Pile Water Consumption

The total amount of material accumulated in storage piles from the survey was totaled by category. It was assumed that operators of hot mix asphalt facilities would use chemical dust suppressants on storage piles; therefore, storage piles at hot mix asphalt plants were not included in water consumption estimates. It was assumed that hot mix asphalt facilities would use chemical dust suppressants, because water use would increase drying time, which would increase energy use and emissions. It is believed that hot mix asphalt facility operators desire to reduce energy cost and emissions.

It was estimated that storage piles at each facility were on average 20 feet high and built in a pyramid shape with a square base. Staff used a water consumption factor provided by a vendor⁵ (5 gallons of water per minute, per 1,000 tons of throughput per hour per process = 0.3 gallon per ton per process). It was assumed that storage piles would be watered to a depth of one inch per watering, and watering disturbed areas would be equivalent to one additional inch of watering; therefore, an equivalent of three inches of the surface perimeter of the pyramid would be watered. Based on these assumptions ~~1,796,700~~ 1,798,170 tons of material on the surface perimeter of the storage piles would be stabilized per day; therefore, it was estimated that ~~539,000~~ 539,451 gallons of additional water would be required to water storage piles (see Appendix C for detailed information on storage pile water consumption). Staff assumed that 20 percent of the storage piles are currently stabilized with water to comply with Rule 403. Based on this assumption 431,561 gallons of water (539,451 gallons of water x 0.20) are needed to comply with PR 1157.

Internal Paved Roads

PR 1157 requires less active facilities (154 facilities) to water 100 feet of their paved roads on the days that sweeping are not conducted. With the assumption that the width of paved road is 20 feet, staff estimated that 308,000 square feet (100 ft x 20 ft x 154 facilities) or 34,222 square yards of paved road would need watering in a day. NESCO stated that approximately one gallon of water would be needed to water one square yard of paved road. Staff assumed that two waterings per week would be necessary. Based on this information, staff estimated that 13,689 gallons per day would be required for paved roads.

Other Process Water Consumption

Water consumption from processes other than wheel washing and storage pile watering was estimated by multiplying the throughput of each process by a water consumption factor (5 gallons of water per minute, per 1,000 tons of throughput per hour per process = 0.3 gallon per ton per process) provided by a vendor. Since crushers already require dust controls (e.g., filter bags, baghouses, etc.); it was assumed that they would not require additional water. Screening

⁶ Telephone conversation from Ms. Tuyet-le Pham to Mr. Mark Kefner of NESCO on July 16, 2004.

activities were also assumed to be controlled; however, it was assumed that screens may require additional water to meet stabilization required by PR 1157. Therefore, only half of the throughput from screening processes was assumed to require additional water. The remaining processes comprising of loading/unloading, conveyors, and hoppers/surge bins were assumed to require watering. Using the vendor supplied water consumption rate, staff estimated that ~~1,250,000–1,308,892~~ tons per day of material not controlled would require ~~375,000–353,802~~ additional gallons of water per day to meet PR 1157 requirements (see Appendix C for detailed information on process water consumption).

Total Additional Water Consumption and Impacts

The total amount of additional water required would be ~~1,428,000–1,209,452~~ gallons per day (~~514,000–401,400~~ + ~~539,000–431,561~~ + ~~13,689~~ + ~~375,000–353,802~~ gallons per day). Current practices allow the Metropolitan Water District (MWD) to bring water supplies on-line at least ten years in advance of demand with a very high degree of reliability. According to the MWD (Report on Metropolitan's Water Supplies, February 11, 2002), "if all imported water supply programs and local projects proceed as planned, with no change in demand projections, the reliability (of its projected numbers) could be assured beyond 20 years." In that same MWD report, the total projected water demand for all MWD water supply programs and local projects in the year 2005, the first future year listed, is 2,199,300 acre-feet (717 billion gallons per year or two billion gallons per day) and the water supply is 2,557,300 acre-feet (834 billion gallons year or 2.3 billion gallons per day). An increase in water demand of ~~1,428,000–1,209,452~~ gallons per day is negligible compared to the projected total district supply capacity for year 2005. Further, the increase in water demand does not exceed the SCAQMD's significance threshold of 5,000,000 gallons per day, and is therefore considered to not be significant.

Other Potential Impacts

c), d) & e) The proposed project does not involve altering the course of any stream or river, nor is it expected to alter any existing drainage patterns at affected sites that could result in soil erosion or provide additional sources of polluted runoff. The proposed project does involve incrementally increasing dust control watering practices at affected sites or facilities. 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 the rule only requires that operators at affected facilities dampen and/or stabilize non-exempt materials from each emission source.

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 is not expected to have an adverse impact on hydrology and water quality. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	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

a) through c) The net effect of PR 1157 would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operation facilities in the district. The proposed amendments would also enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions within the Basin. 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 to have a significant adverse impact on land use and planning. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) and b) No provisions of the proposed rule is 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 rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule would also enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions to meet attainment with state and federal air quality standards.

Based on the above, no adverse impacts on mineral resources are expected. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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? | ☐ | ☐ | ☒ |
| 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

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 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 Los Angeles. Existing operational noise generated from aggregate and related operations in Los Angeles would be subject to the City of Los Angeles Noise Element of the General Plan and/or the City of Los Angeles Municipal Code. Table 2-4 summarizes these requirements. Other local jurisdictions typically have similar requirements.

Table 2-4
City of Los Angeles Noise Requirements

Requirement	Construction Limit (dBA)	Operational Limit (exterior dBA except where noted)
Noise Element of the General Plan of the City of Los Angeles	65 dBA CNEL or less - considered "conditionally acceptable" for residential use. 70-75 dBA CNEL - considered "conditionally acceptable for industrial use".	65 dBA CNEL or less - considered "conditionally acceptable" for residential use. 70-75 dBA CNEL - considered "conditionally acceptable" for industrial use.
City of Los Angeles Municipal Code Chapter XI, Article 2, §112.05	Requires that noise levels generated by construction equipment within a residential zone not exceed 75 dBA.	Not applicable.
City of Los Angeles Municipal Code Chapter IV, Article 1, §41.40	Construction activities prohibited without a special permit between the hours of 10:00 p.m. and 7:00 a.m.	Not applicable.

Construction-Related Noise

PR 1157 includes some construction activities, should the facilities to comply with the proposed 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 2-5 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 2-5
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, aggregate facilities are typically located in industrial or rural areas, removed from residential communities.

In general, given ambient noise levels near affected facilities, 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.

The proposed project affects primarily existing facilities and would not generate excessive noise levels outside the boundaries of the affected facilities, 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 rule would expose persons to noise levels in excess of standards established in local general plans or ordinances, or standards of other agencies. The net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule would also enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions in the Basin. The proposed 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). The proposed rule may require an incremental increase in dust control measures at affected sites or facilities. Dust control includes misters, baghouses, screen enclosures, ~~chutes~~, rumble grates, wheel washers and heavy-duty diesel trucks to apply chemical stabilizers or water; and street sweepers to mechanically reduce fugitive dust. Since PR 1157 would expand on existing control or add control used at similar facilities or process, PR 1157 is not expected to increase noise levels over to existing baseline noise. For example, heavy-duty trucks (including street sweepers) typical produce sound levels of approximately 81 – 87 dBA (decibels A weighted average) at 50 feet.

e) & f) No new structures, buildings or facilities are required as part of the proposed project and, as a result, the proposed rules are not anticipated to affect in any way airport land use plans or private airstrips. Construction of fugitive dust control and paving of roadways between rumble grate and wheel washers to public roads are not expected to affect airport land use plans or private air strips.

Based on the above discussion, no adverse noise impacts are expected as a result of the proposed project. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) through c) In general, the net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule would enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions in the district. No provision of the proposed 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 to have a significant adverse impact on population and housing. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) & b) The net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule would also enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions 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 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 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 PR 1157 would be carried out by SCAQMD inspectors as part of their normal duties.

Based on the above discussion, the proposed project is not expected to have a significant adverse impact on public services. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) and b) The net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities at aggregate and related operations in the district. The proposed rule would also enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions in the district. Because the proposed project is not expected to induce or redirect population growth, no provisions of the proposed rule would increase the need for additional parks or other recreational facilities, or cause the deterioration of existing facilities. The proposed 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 to have a significant adverse impact on recreation. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

a) and b) In general, the net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities from aggregate and relate operations in the district. The proposed rule would enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions 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 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 to have significant adverse impacts on solid and hazardous waste. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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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

(a), (b) & (f) In general, the net effect of the proposed rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities from aggregate and related operations in the district. PR 1157 would enhance the clarity and enforceability of existing fugitive dust control programs. Under Rule 403 facilities are required to control dust from unpaved roads and prevent and remove dust from paved roads. Most impacts would occur during construction from construction worker, haul truck and delivery truck trips to and from each site. The average worst case would require 11 two way trips from installation of rumble grates and wheel washers. The worst case would require 45 two way trips for grading operations from bump-up requirements at a facility that would need to pave an unpaved road; however, as stated in the air quality section, it is highly unlikely facilities would trigger the ~~bump-up~~ recurrent violations provisions. These construction trips would not be significant because so few trips would be required at each site, the sites are distributed throughout the district and the construction periods would be short in duration. In the air quality section it was determined that 41 additional delivery truck trips to separate facilities per week would be required for chemical stabilizer and street sweeping (after each shift for large facilities, or every other work day for small facilities with watering on days sweeping is not performed) would be required. Forty-one additional delivery truck trips throughout the district is below the significance threshold of 350 trucks per day; and therefore, would not significantly adversely impact traffic. Street sweeping is not expected to significantly adversely impact traffic, because it would occur infrequently and for short durations of time.

c) There are no requirements in the proposed 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 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.

d) & e) There are no provisions in the proposed 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 rule would not create an inadequate emergency access situation or inadequate parking capacity situation. There are no requirements in the proposed rule which would affect adopted policies, plans, or programs supporting alternative transportation. The proposed rule is intended to reduce PM10 fugitive dust emissions in the district.

Based on the above discussion, the proposed 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. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	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

(a) The proposed project may require minor construction to install misting or dust suppressants, screen enclosures, baghouses, chutes, and paving roadways from rumble grates and wheel washers to public roads. However, as stated in the other sections of the checklist the proposed 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 rule would be to incrementally extend dust control requirements that are already required of fugitive dust generating activities in the district. In particular, PR 1157 would extend BACM requirements and dust control requirements for aggregate and related practices from in the district. The proposed rule would enhance the clarity and enforceability of existing fugitive dust rules to reduce PM10 emissions in the district

(b) Based on the preceding analysis of environmental impacts, the proposed project is not expected to generate significant adverse project-specific impacts. As a result, the effects of the

proposed rule on the environment are considered to be less than cumulatively considerable. Therefore, the proposed project is not expected to generate significant adverse cumulative environmental impacts when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

(c) The proposed rule does not have the potential to cause environmental effects that would generate substantial adverse effects on human beings, either directly or indirectly. By achieving further reductions in PM10 emission from affected sites and operations, the proposed project would produce public health benefits from reducing exposure to PM10 concentrations throughout the district.

APPENDIX A

ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms

Abbreviation/Acronym	Description
μ	Micro
a	Mathematical constant
ALIMEN (GI/LV)	Alimentary system (Gastrointestinal system and liver)
APCD	Air pollution control district
AQMP	Air Quality Management Plan
b	Mathematical constant
BACM	Best Available Control Measures
Basin	South Coast Air Basin
CB	Concrete batching
CEQA	California Environmental Quality Act
CF	Control factor
CFR	Code of Federal Regulations
CMB	Crushed miscellaneous base
CNEL	Community Noise Equivalent Level
CNS/PNS	Central or peripheral nervous system
CO	Carbon monoxide
CP	Concrete product
CV/BL	Cardiovascular or blood system
CVSIP	Coachella Valley State Implementation Plan
CWA	Clean Water Act
dB	Decibel
dBA	Decibel A-weighted
DOHS	Division of Occupational Health and Safety
E	PM ₁₀ annual emissions
EA	Environmental Assessment
EF	Emission factor
ENDO	Endocrine system
ERPG	Emergency Response Planning Guideline
EYE	Eye
Gas Company, The	Southern California Gas Company
GBUAPCD	Great Basin Unified Air Pollution Control District
HI	Hazard Index
HMA	Hot mixed asphalt
HP	Horsepower
HQ	Hazard Quotient
I & M	Inspection and management
ICE	Internal combustion engine
IMMUN	Immune system
IS	Initial Study
ITF	Irwindale Taskforce
k	PM aerodynamic diameter constant
KIDN	Kidney
lb	Pound
LOS	Level of Service
M	Meter
MDAB	Mojave Desert Air Basin
MICR	Maximum individual cancer risk

Abbreviations and Acronyms (Continued)

<u>Abbreviation/Acronym</u>	<u>Description</u>
MSHA	US Mining Safety and Health Administration
MWD	Metropolitan Water District
N	Number of transfer points
NO ₂	Nitrogen dioxide
NOC	Notice of Compliance
NOV	Notice of Violation
NO _x	Oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NSR	New Source Review
OSHA	Occupational Safety and Health Administration
PM ₁₀	Particulate matter less than 10 microns in aerodynamic diameter
PPHM	Parts per hundred million
PPM	Parts per million
PR	Proposed Rule
RCRA	Resources Conservation and Recovery Act
REPR	Reproductive system/Development
RESP	Respiratory system
RWQCB	Regional Water Quality Control Board
S	Surface material silt content
SB	State Bill
SCAQMD	South Coast Air Quality Management District
SCRMA	Southern California Ready Mixed Concrete Association
SCRPA	Southern California Rock Products Association
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SKIN	Skin
sL	Silt loading
SO ₂	Sulfur dioxide
SO _x	Sulfur oxides
SSAB	Salton Sea Air Basin
TAC	Toxic Air Contaminant
TOC	Total Organic Compounds
UBC	Uniform Building Code
USEPA	United States Environmental Protection Agency
VMT	Vehicle miles traveled
VOC	Volatile organic compound
W	Mean vehicle weight
WWTP	Waste water treatment plants

APPENDIX B

PROPOSED RULE 1157

In order to save space and avoid repetition, please refer to the latest version of the proposed Rule 1157 located elsewhere in the rule package. The version of the proposed rule circulated with the Draft EA was released on September 2, 2004 for a 30-day public review and comment period ending October 1, 2004.

Original hard copies of the Draft EA, which include the proposed rule at that time, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX C

ASSUMPTIONS AND CALCULATIONS

METHODOLOGY AND ASSUMPTIONS USED ESTIMATE PRIMARY EMISSIONS

The following methodology and assumptions were used by rule development staff:

1. **PM10 Annual Emissions from Loading/Unloading Activity:**

$$E = (\text{Daily throughput} \times \text{number of days/year} \times EF / 2000) \times CF$$

Where:

E: PM10 annual emissions, ton/year

EF: PM10 emission factor, lb/ton

CF: control factor = 1- control efficiency

- For the aggregate, CMB, and HMA categories, $EF_{\text{aggregate}} = 0.0011 \text{ lb/ton}$ (AP-42, Chapter 13.2.4., Equation 1, Jan. 1995). This emission factor was also used to estimate emissions from hoppers/surge bins and conveyors.
- For the CB, CP, and “other” categories: 50% of the throughput was assumed for aggregate and 50% was assumed for sand. This assumption and the following emission factors were also used to estimate emissions from hoppers/surge bins and conveyors.
 $EF_{\text{aggregate}} = 0.0033 \text{ lb/ton}$ (AP-42, Chapter 11.12, Table 11.12-2, Oct. 2001)
 $EF_{\text{sand}} = 0.00099 \text{ lb/ton}$ (AP-42, Chapter 11.12, Table 11.12-2, Oct. 2001)
- $CF = 80\%$, with the assumption that control efficiency of current level of watering/misting is 20%—based on site visit observations. This control efficiency was applied to all activities and equipment, unless indicated otherwise.

2. **PM10 Annual Emissions from Hopper/Surge Bin:**

$$E = (\text{Hourly throughput rate} \times \text{Annual operating hours} \times EF / 2000) \times CF$$

3. **PM10 Annual Emissions from Conveyor Transfer Point:**

$$E = (\text{Hourly throughput rate} \times \text{Annual operating hours} \times EF / 2000) \times CF \times N$$

Where:

N: number of transfer points

4. **PM10 Annual Emissions from Crusher:**

$$E = (\text{Hourly throughput rate} \times \text{Annual operating hours} \times EF / 2000)$$

Where:

- For the aggregate, CMB, and HMA categories, it was assumed that 50% of the crushing activity was tertiary crushing and 50% was fines crushing, and that all crushers met BACT requirements.
 $EF_{\text{Tertiary crushing, controlled}} = 0.00054 \text{ lb/ton}$ (AP-42, Chapter 11.19.2, Table 11.19.2-2, August 2004)
 $EF_{\text{Fine crushing, controlled}} = 0.0012 \text{ lb/ton}$ (AP-42, Chapter 11.19.2, Table 11.19.2-2, August 2004)
- For the CP category, it was assumed that all crushers met BACT requirements

$$EF_{\text{crusher, controlled}} = 0.00059 \text{ lb/ton (AP-42, Chapter 11.3, Table 11.3-1, Aug. 1997)}$$

5. **PM10 Annual Emissions from Screening Equipment:**

$$E = (\text{Hourly throughput rate} \times \text{Annual operating hours} \times EF / 2000) \times CF$$

Where:

- For the aggregate and CMB categories, it was assumed that 50% of the screening activity was screening and 50% was fines screening.

$$EF_{\text{Screening}} = 0.0087 \text{ lb/ton (AP-42, Chapter 11.19.2, Table 11.19.2-2, August 2004)}$$

$$EF_{\text{Fines screening}} = 0.072 \text{ lb/ton (AP-42, Chapter 11.19.2, Table 11.19.2-2, August 2004)}$$

CF = 50% with the assumption that control efficiency of current level of watering/misting is 50%. This control factor was also applied to CP facilities.

- For the CP category, $EF = 0.53 \text{ lb/ton (AP-42, Chapter 11.3, Table 11.3-1, Aug. 1997)}$
- For the HMA category, it was assumed that all screening equipment are controlled $EF_{\text{controlled}} = 0.0098 \text{ lb/ton (AP-42, Chapter 11.1, Table 11.1-1, March 2004)}$

6. **PM10 Annual Emissions from Milling Equipment:**

$$E = (\text{Hourly throughput rate} \times \text{Annual operating hours} \times EF / 2000)$$

Where:

- It was assumed that all milling equipment was controlled. $EF_{\text{controlled}} = 0.0032 \text{ lb/ton (AP-42, Chapter 11.3, Table 11.3-1, August 1997)}$

7. **PM10 Annual Emissions from Silo:**

$$E = \text{Annual throughput} \times EF / 2000$$

Where:

- It was assumed that 85% of the throughput was for cement and 15% was for fly ash, and that all silos had baghouses or equivalent controls

$$EF_{\text{cement, controlled}} = 0.00034 \text{ lb/ton (AP-42, Chapter 11.12, Table 11.12-2, Oct. 2001)}$$

$$EF_{\text{fly ash, controlled}} = 0.0049 \text{ lb/ton (AP-42, Chapter 11.12, Table 11.12-2, Oct. 2001)}$$

8. **PM10 Annual Emissions from Truck Mix Loading:**

$$E = \text{Annual throughput} \times EF / 2000$$

Where:

Annual throughput = aggregate throughput + cement and fly ash throughput

- It was assumed that $EF_{\text{controlled}} = 0.051 \text{ lb/ton (AP-42, Chapter 11.12, Table 11.12-2, Oct. 2001)}$

9. **PM10 Annual Emissions from Asphalt Load-Out:**

$$E = \text{Annual throughput} \times EF / 2000$$

Where:

- $EF = 0.5 \times 0.0003 \text{ lb/ton}$ (AP-42, Chapter 11.1, Equation 11.1.1.5, March 2004)

10. **PM10 Annual Emissions from Open Storage Pile:**

$$E = (\text{Annual throughput} \times EF / 2000) \times CF$$

Where:

- $EF_{\text{active/inactive}} = 0.5 \times 0.33 \text{ lb/ton}$ (AP-42, Chapter 11.19.1, Table 4-1, April 1995). Active emissions were based on 8 to 12 hours of activity per 24-hour period, five active days per week, and included wind erosion, vehicle traffic, and material handling. Inactive emissions were emissions from wind erosion during inactive periods.

11. **PM10 Annual Emissions from Internal Unpaved Road:**

$$E = VMT \times k \times (S/12)^a \times (W/3)^b \quad (\text{AP-42, Chapter 13.2.2, Equation 1 a, December 2003})$$

Where:

k, a, and b are constants

VMT: annual vehicle miles traveled

$VMT = (\text{road length (ft)} \times \text{number of truck trips/day} \times \text{number of days/yr}) \times 1\text{mile}/5280 \text{ ft}$

$k = 1.5 \text{ lb/VMT}$ (AP-42, Chapter 13.2.2, Table 13.2.2-2, December 2003)

$a = 0.9$

$b = 0.45$

S: surface material silt content, %.

- For the aggregate facilities, $S_{\text{Haul road}} = 8.3$, $S_{\text{Non-haul road}} = 10$. For other facilities, $S_{\text{Haul road}} = 7.1$, $S_{\text{Non-haul road}} = 4.8$ (AP-41, Chapter 13.2.2, Table 13.2.2-1, December 2003)

W: mean vehicle weight, ton.

- It was assumed that $W_{\text{haul truck}} = 100 \text{ ton}$, $W_{\text{loaded haul truck}} = 150 \text{ ton}$, $W_{\text{unloaded non-haul truck}} = 5 \text{ ton}$, and $W_{\text{loaded non-haul truck}} = 30 \text{ ton}$.
- It was also assumed that 50% of the vehicles were loaded and 50% were unloaded.

12. **PM10 Annual Emissions from Paved Roads (Track-Out Emissions):**

$$E = VMT \times k \times (sL/2)^{0.65} \times (W/3)^{1.5} \quad (\text{AP-42, Chapter 13.2.1, Equation 1, December 2003})$$

Where:

$k = 0.016 \text{ lb/VMT}$ (AP-42, Chapter 13.2.1.1, Table 13.2-1.1, December 2003)

$sL = \text{silt loading} = 1.45 \text{ g/m}^2$ (Source test on silt loading conducted by Catalina Pacific Concrete Company, July 2004)

W: mean vehicle weight, tons

- It was assumed that $W_{\text{loaded}} = 30$ ton and $W_{\text{unloaded}} = 5$ ton.
- It was also assumed that 50% of the vehicles were loaded and 50% were unloaded.

ASSUMPTIONS AND METHODOLOGY FOR SCALING SMALLER, ACTIVE FACILITIES THAT NEED WHEEL WASHERS AND RUMBLE GRATES

The following assumptions and methodology were used to estimate the number of active facilities that need both wheel washers (WW) and rumble grates (RG):

Number of facilities need WW and RG = (Number of facilities need WW and RG / Number of facilities response to survey) x Number of facilities in the universe

For Aggregate Plants:

$$(19/29) \times 29 = 19$$

For CB Plants:

$$(14/47) \times 100 = 30$$

For HMA Plants:

$$(17/26) \times 45 = 29$$

For CP Plants:

$$(4/25) \times 152 = 24$$

Secondary Emission Estimates

Number of Facilities That Would Require Rumble Grates and Wheel Washers

Operators of 156 affected facilities out of a total of 395 facilities that would be subject to PR 1157 responded to a recent survey conducted by SCAQMD staff. Of these 156 surveys, 47 responses were from concrete batching, 29 from aggregate, 26 from hot mix asphalt, 25 from concrete product, 15 from crushed miscellaneous base facilities, eight from facilities that fall under the “other” category (i.e., blending and bagging sand and cement, landfill handling construction and demolition debris, etc.), and six from exempt facilities (i.e., out of business, located outside the air basin, and non-aggregate business). The majority of the survey responses came from large and medium facilities, as well as facilities with more than one location. Based on the survey responses, 22 aggregate facilities, four concrete batching facilities, three hot mix asphalt facilities, and one aggregate related facility would require wheel washers because they are in excess of 50 acres in size. Operators of nine concrete batching facilities, 14 hot mix asphalt facilities, three concrete product facilities and one aggregate related facility stated that they have 60 aggregate and/or mixing truck trips exiting their facilities per day. It was assumed that all facilities greater than 50 acres were included in the survey, but not all facilities with 60 or more aggregate and/or mixing truck trips exiting were included in the survey. The total number of facilities that would require rumble grates and wheel washers because of truck trips was estimated by scaling the number facilities identified by the survey by the total number of facilities estimated to be affected by PR 1157, ~~The number of facilities from the survey that would be required to install rumble grates and wheel washers because of truck trips were divided~~

by the number of surveys received to calculate the percentage of facilities in each category that would need wheel washers ($9/47 = 19$ percent of the concrete batching facilities surveyed, $14/26 = 54$ percent of the hot mix asphalt facilities surveyed, and $3/25 = 12$ percent of the concrete product facilities surveyed). These percentages were multiplied by the number of facilities in the district that would be affected by PR 1157 ($100 \times 19\% = 19$ cement batching facilities, $45 \times 54\% = 24$ hot mix asphalt facilities, and $152 \times 12\% = 18$ concrete product facilities). Therefore, it was estimated that 97 facilities (22 aggregate facilities $+ (4 + 19)$ concrete batching facilities $+ (3 + 24)$ hot mix asphalt facilities $+ 18$ concrete product facilities $+ (1 + 1)$ related facilities $= 92$) would require rumble grates and wheel washers. Eight wheel washers were added because eight of the facilities surveyed had two exits. Therefore, $100 (92+8)$ facilities would require rumble grates and wheel washers.

Based on the survey responses and the methodology of scaling survey data presented in Draft Staff Report for PR 1157, staff estimated that 102 facilities would need wheel washers based on their truck trips. Some of the affected facilities have indicated in the surveys that they currently have wheel washers (as a control measure to reduce track-out under Rule 403). Based on such information and the scaling methodology, staff estimated that 80 facilities would need wheel washers to comply with PR 1157. This number is consistent with the assumption that 20 percent of the facilities currently have wheel washers. Due to 11 facilities that have two exits, staff estimated that a total of 91 wheel washers ($80 + 11 = 91$) would be needed for the compliance with PR 1157.

Staff assumed that 20 percent of the facilities currently have rumble grates to comply with Rule 403; therefore, only 320 rumble grates ($((389 + 11) \times 0.8 = 320)$) would be needed for compliance with this proposed rule.

Table C- 1 details criteria construction emissions for installation of a rumble grate and wheel washer with paving. Table C-2 details criteria operation emissions from delivery trucks. Table C-3 presents water estimates for storage piles. Table C-4 presents water estimates for process equipment (loading and unloading, conveyors, hopper/surge bins and screening equipment).

Table C-1
Construction Emission Estimates for Rumble Grates and Wheel Washers

Construction Activity

Wheel Washers and Rumble Grates

Construction Schedule 1 days

Activity	Equipment Type	No. of Equipment	hr/day	Crew Size
Portable Equipment Operation	Pavers	1	1.00	5
	Rollers	1	1.00	
	Rubber Tired Dozers	1	1.00	
	Tractors/Loaders/Backhoes	1	2.00	

Construction Equipment Combustion Emission Factors

Equipment Type	CO lb/hr	VOC lb/hr	NO _x lb/hr	SO _x lb/hr	PM ₁₀ lb/hr
Pavers	0.371	0.097	0.774	0.139	0.059
Rollers	0.371	0.097	0.774	0.139	0.059
Rubber Tired Dozers	1.209	0.232	3.037	0.453	0.123
Tractors/Loaders/Backhoes	0.424	0.132	0.858	0.115	0.086

Source: SCAB values provided by the ARB, Aug 2004.

Construction Equipment Ratings and Load Factors

Equipment Type	ARB Rating (hp)	ARB Load Factor (%)	User Defined Rating (hp)
Pavers	101	62	
Rollers	105	56	
Rubber Tired Dozers	358	59	155
Tractors/Loaders/Backhoes	77	55	

Source: SCAB values provided by the ARB, Aug 2004.

*Assumed equipment is diesel fueled.

Fugitive Dust Grading Parameters

Vehicle Speed (mph) ^a	Vehicle Miles Traveled ^b
3	0.01

a) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.

b) Assumed 13 foot wide blade with 2 foot overlap (11 foot wide). Vehicle miles traveled (VMT) = 60 ft x mile/5,280 ft = 0.01 mile

Table C-1 (Continued)
Construction Emission Estimates for Rumble Grates and Wheel Washers

Fugitive Dust Stockpiling Parameters

Silt Content^a	Precipitation Days^b	Mean Wind Speed Percent^c	TSP Fraction	Area (acres)
6.9	10	100	0.5	0.02

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

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

c) 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.

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier^a

Mean Wind Speed^b	Moisture Content^c	Material Handled	Material Handled^d
mph		cy	lb/day
10	7.9	2	5,000

a) 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

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

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

d) Assuming 2 cubic yard of material handled [(2 cyd x 2,500 lb/cyd)/1 day = 2,500 lb/day]

Asphalt Off-gassing Parameters

Area	VOC	Days Paving
acre	lb/acre	
0.034	2.62	1

Source: Emission factor from URBEMIS2002

Table C-1 (Continued)
Construction Emission Estimates for Rumble Grates and Wheel Washers

Construction Vehicle (Mobile Source) Emission Factors

Vehicle Travel	CO lb/mile	VOC lb/mile	NOx lb/mile	SOx lb/mile	PM10 lb/mile
Offsite (Flatbed Truck - Heavy-Heavy Duty)	0.0056	0.0015	0.029	0.00039	0.00073
Offsite (Construction Worker Vehicle)	0.011	0.0003	0.001	0.00001	0.00004

Source: CARB's EMFAC2002 V2.2, 2004 (Winter, 75°F, 40% RH, 35 mph, HHD diesel and LDT2 catalytic categories)

Vehicle Idling	CO lb/hr	VOC lb/hr	NOx lb/hr	SOx lb/hr	PM10 lb/hr
Offsite (Haul Truck - Heavy-Heavy Duty)	0.058	0.01	0.178	0.001	0.0046

Source: CARB's EMFAC2002 V2.2, 2004 (Winter, 75°F, 40% RH, HHD diesel)

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)	Idling Time (min)
Offsite (Construction Worker)	5	20	0
Offsite (Delivery/Haul Truck)	3	20	5
On-site (Water Truck)	2	0.7	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	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Asphalt Pavers	0.37	0.10	0.77	0.14	0.06
Rollers	0.37	0.10	0.77	0.14	0.06
Rubber Tired Dozers	0.52	0.10	1.31	0.20	0.05
Tractors/Loaders/Backhoes	0.85	0.26	1.72	0.23	0.17
Total	2.11	0.56	4.58	0.70	0.34

Table C-1 (Continued)
Construction Emission Estimates for Rumble Grates and Wheel Washers

Incremental Increase in Fugitive Dust Emissions from Construction Operations

Equations:

Grading^a: $(0.60 \times 0.051 \times \text{mean vehicle speed}^{2.0} \times \text{VMT}) = \text{PM}_{10} \text{ Emissions (lb/day)}$

Storage Piles^b: $1.7 \times (\text{silt content}/1.5) \times ((365\text{-precipitation days})/235) \times \text{wind speed percent}/15 \times \text{TSP fraction} \times \text{Area} \times 8 \text{ hr}/24 \text{ hr}] = \text{PM}_{10} \text{ Emissions (lb/day)}$

Material Handling^c: $(0.0032 \times \text{aerodynamic particle size multiplier} \times (\text{wind speed (mph)}/5)^{1.3}/(\text{moisture content}/2)^{1.4} \times \text{material handled (lb/day)}/2,000 \text{ (lb/ton)}) = \text{PM}_{10} \text{ Emissions (lb/day)}$

Unmitigated PM₁₀^d	
Description	lb/day
Earthmoving	0.001
Storage Piles	0.39
Material Handling	0.0005
Total	0.39

a) USEPA, AP-42, Jan 1995, Table 11.9-1, Equation for Site Grading $\leq 10 \mu\text{m}$

b) Tables A9-9-E SCAQMD CEQA Air Quality Handbook, 1993

c) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggragate Handling and Storage Piles, Equation 1

d) Includes watering at least twice a day per Rule 403 (50% control efficiency).

Incremental Increase in Onsite VOC Emissions from Construction Equipment

Equation:

Asphalt off-gassing: $\text{Area (acres)} \times \text{VOC EF (lb/acre)}/\text{Days Paving} = \text{Onsite Construction VOC Emissions (lb/day)}$

VOC	
	lb/day
Asphalt off-gassing	0.09

Table C-1 (Continued)
Construction Emission Estimates for Rumble Grates and Wheel Washers

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

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

Vehicle	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Offsite (Construction Worker)	2.20	0.06	0.20	0.00	0.01
Offsite (Flatbed Truck)	0.67	0.18	3.48	0.05	0.09
Total	2.87	0.24	3.68	0.05	0.10

Incremental Increase in Onsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/hr) x No. of One-Way Trips/Day x Minutes Idling per Trip x hr/60 min = Offsite Construction Emissions (lb/day)

Vehicle	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Onsite Idling (Haul and Water Truck)	0.024	0.004	0.07	0.0004	0.002
Onsite (Water Truck)	0.02	0.004	0.08	0.001	0.002
	0.04	0.01	0.15	0.001	0.004

Total Incremental Combustion Emissions from Construction Activities

Sources	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
On and Off-Site Emissions	5	1	8	0.8	1
Significance Threshold	550	75	100	-	150
Exceed Significance?	NO	NO	NO	N/A	NO

Table C-2
Operation Emission Estimates from Delivery Trucks

Operation Activities

Delivery of Dust Chemical Dust Stabilizers and Sweeper Trips

Mobile Source Emission Factors

Vehicle Travel	CO lb/mile	VOC lb/mile	NOx lb/mile	SOx lb/mile	PM10 lb/mile
Heavy Duty Truck	0.0056	0.0015	0.029	0.00039	0.00073

Source: CARB's EMFAC2002 V2.2, 2004 (Winter for all except CO for Construction Worker Vehicle is Annual)

Vehicle Idling	CO lb/hr	VOC lb/hr	NOx lb/hr	SOx lb/hr	PM10 lb/hr
Heavy Duty Truck	0.058	0.01	0.178	0.001	0.0046

Source: CARB's EMFAC2002 V2.2, 2004 (Winter, 75°F, 40% RH, HHD diesel)

Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	One Way Trip Length (miles)	Idling Time (min)
Delivery Truck	41	20	5

Incremental Increase in Offsite Combustion Emissions from Mobile Sources

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

Vehicle	CO lb/day	VOC lb/day	NOx lb/day	SOx lb/day	PM10 lb/day
Delivery Truck	9.18	2.46	47.56	0.64	1.20
Total	9.18	2.46	47.56	0.64	1.20

Table C-2 (Continued)
Operation Emission Estimates from Delivery Trucks

Incremental Increase in Onsite Combustion Emissions from Mobile Sources

Equation: Emission Factor (lb/hr) x No. of One-Way Trips/Day x Minutes Idling per Trip x hr/60 min = Onsite Emissions (lb/day)

Vehicle	CO lb/day	VOC lb/day	NO_x lb/day	SO_x lb/day	PM₁₀ lb/day
Delivery Truck	0.2	0.03	0.61	0.003	0.016
Total	0.20	0.03	0.61	0.003	0.016

Total Incremental Regional Emissions from Operational Activities

Sources	CO lb/day	VOC lb/day	NO_x lb/day	SO_x lb/day	PM₁₀ lb/day
On and Off-site Emissions	9	3	48	0.6	1
Significance Threshold	550	55	55	150	150
Exceed Significance?	NO	NO	NO	NO	NO

Table C-3
Water Estimates for Storage Piles

Operation Type	Open Storage Pile - Dry (t)	Pile Volume (cf)	Base area (sf)	Side Length (ft)	1/2 Side Length (ft)	Slant height (ft)	Lateral area (ft ²)	Material Volume (ft ³)	Material Weight (ton)	Water consumption (gal)	Ave. Water Consumption (gal) by Category
A	141,854	94,569	14,185	119	60	63	14,964	3,741	5,612	1,683	
A	1,429,203	952,802	142,920	378	189	190	143,718	35,930	53,894	16,168	
A	1,135,294	756,863	113,529	337	168	170	114,327	28,582	42,872	12,862	
A	2,500	1,667	250	16	8	22	680	170	255	77	
A	5,000	3,333	500	22	11	23	1,025	256	384	115	
A	1,696,250	1,130,833	169,625	412	206	207	170,423	42,606	63,909	19,173	
A	362,033	241,355	36,203	190	95	97	36,995	9,249	13,873	4,162	
A	1,429,203	952,802	142,920	378	189	190	143,718	35,930	53,894	16,168	
A	10,166	6,777	1,017	32	16	26	1,631	408	612	183	
A	30,000	20,000	3,000	55	27	34	3,715	929	1,393	418	
A	50,000	33,333	5,000	71	35	41	5,745	1,436	2,154	646	
A	91,889	61,259	9,189	96	48	52	9,957	2,489	3,734	1,120	
A	480,800	320,533	48,080	219	110	111	48,873	12,218	18,328	5,498	
A	1,140	760	114	11	5	21	442	111	166	50	
A, CS	17,180	11,453	1,718	41	21	29	2,388	597	895	269	
A, CS	2,275	1,517	228	15	8	21	645	161	242	73	
A,C,CS	431,263	287,509	43,126	208	104	106	43,919	10,980	16,470	4,941	
A	24,104	16,069	2,410	49	25	32	3,109	777	1,166	350	
A	155,475	103,650	15,548	125	62	65	16,328	4,082	6,123	1,837	
A	234,781	156,521	23,478	153	77	79	24,265	6,066	9,099	2,730	
A	167,688	111,792	16,769	129	65	68	17,551	4,388	6,581	1,974	
Sub-Total										90,497	338,616.53
CB	109,722	73,148	10,972	105	52	56	11,745	2,936	4,404	1,321	
CB	1,204	802	120	11	5	21	455	114	171	51	
CB	1,072	715	107	10	5	21	428	107	160	48	
CB	5,778	3,852	578	24	12	23	1,122	280	421	126	
CB	5,750	3,833	575	24	12	23	1,118	280	419	126	
CB	1,946	1,297	195	14	7	21	591	148	222	66	
CB	3,000	2,000	300	17	9	22	755	189	283	85	
CB	52	35	5	2	1	20	92	23	34	10	
CB	444	296	44	7	3	20	270	68	101	30	

Table C-3 (Continued)
Water Estimates for Storage Piles

Operation Type	Open Storage Pile - Dry (t)	Pile Volume (cf)	Base area (sf)	Side Length (ft)	1/2 Side Length (ft)	Slant height (ft)	Lateral area (ft ²)	Material Volume (ft ³)	Material Weight (ton)	Water consumption (gal)	Ave. Water Consumption (gal) by Category
CB	440	293	44	7	3	20	269	67	101	30	
CB	1,968	1,312	197	14	7	21	595	149	223	67	
CB	460	307	46	7	3	20	275	69	103	31	
CB	1,433	956	143	12	6	21	500	125	187	56	
CB	7,483	4,989	748	27	14	24	1,326	331	497	149	
CB	533	356	53	7	4	20	297	74	111	33	
CB	1,474	983	147	12	6	21	508	127	190	57	
CB	4,800	3,200	480	22	11	23	999	250	375	112	
Sub-Total										2,401	5,108.91
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	68,000	45,333	6,800	82	41	46	7,558	1,889	2,834	850	
CMB	68,000	45,333	6,800	82	41	46	7,558	1,889	2,834	850	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	65,741	43,827	6,574	81	41	45	7,331	1,833	2,749	825	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	37,326	24,884	3,733	61	31	37	4,461	1,115	1,673	502	
CMB	34,000	22,667	3,400	58	29	35	4,123	1,031	1,546	464	
CMB	35,185	23,457	3,519	59	30	36	4,244	1,061	1,591	477	
CMB	53,704	35,802	5,370	73	37	42	6,118	1,530	2,294	688	
CMB	35,185	23,457	3,519	59	30	36	4,244	1,061	1,591	477	
Sub-Total										8,381	13,968.42
CP	1,650	1,100	165	13	6	21	540	135	202	61	
CP	24	16	2	2	1	20	63	16	23	7	
CP	190,000	126,667	19,000	138	69	72	19,784	4,946	7,419	2,226	
CP	1	1	0	0	0	20	13	3	5	1	
CP	86400 cf	86,400	12,960	114	57	60	13,737	3,434	5,151	1,545	
CP	81,360	54,240	8,136	90	45	49	8,900	2,225	3,338	1,001	

Table C-3 (Continued)
Water Estimates for Storage Piles

Operation Type	Open Storage Pile - Dry (t)	Pile Volume (cf)	Base area (sf)	Side Length (ft)	1/2 Side Length (ft)	Slant height (ft)	Lateral area (ft ²)	Material Volume (ft ³)	Material Weight (ton)	Water consumption (gal)	Ave. Water Consumption (gal) by Category
CP	7296 cf	7,296	1,094	33	17	26	1,717	429	644	193	
CP	7,000	4,667	700	26	13	24	1,269	317	476	143	
CP	8510 cf	8,510	1,277	36	18	27	1,916	479	719	216	
Sub-Total										5,393	33,220.91
CS	692469 cu ft	692,469	103,870	322	161	162	104,667	26,167	39,250	11,775	
A, CS	236,806	157,870	23,681	154	77	79	24,467	6,117	9,175	2,753	
CS	13,440,000 cf	13,440,000	2,016,000	1,420	710	710	2,016,800	504,200	756,300	226,890	
CS	720 cf	720	108	10	5	21	429	107	161	48	
CS	389000 cf	389,000	58,350	242	121	122	59,145	14,786	22,179	6,654	
										248,120	
HMA	5,556	3,704	556	24	12	23	1,094	274	410	123	0.00
HMA	20,000	13,333	2,000	45	22	30	2,683	671	1,006	302	0.00
HMA	478,600	319,067	47,860	219	109	111	48,653	12,163	18,245	5,474	0.00
HMA	30,000	20,000	3,000	55	27	34	3,715	929	1,393	418	0.00
HMA	1,389	926	139	12	6	21	491	123	184	55	0.00
HMA	560,412	373,608	56,041	237	118	120	56,836	14,209	21,313	6,394	0.00
HMA	593	395	59	8	4	20	314	78	118	35	0.00
HMA	593	395	59	8	4	20	314	78	118	35	0.00
HMA	1,111	741	111	11	5	21	436	109	164	49	0.00
HMA	3,863	2,576	386	20	10	22	876	219	329	99	0.00
HMA	1,000	667	100	10	5	21	412	103	155	46	0.00
HMA	11,667	7,778	1,167	34	17	26	1,797	449	674	202	0.00
HMA	11,111	7,407	1,111	33	17	26	1,736	434	651	195	0.00
HMA	9,722	6,481	972	31	16	25	1,581	395	593	178	0.00
HMA	3,333	2,222	333	18	9	22	803	201	301	90	0.00
HMA	835,630	557,087	83,563	289	145	146	84,359	21,090	31,635	9,490	0.00
HMA	980,000	653,333	98,000	313	157	158	98,797	24,699	37,049	11,115	0.00
Sub-Total										0	0.00

Table C-3 (Continued)
Water Estimates for Storage Piles

Operation Type	Open Storage Pile - Dry (t)	Pile Volume (cf)	Base area (sf)	Side Length (ft)	1/2 Side Length (ft)	Slant height (ft)	Lateral area (ft ²)	Material Volume (ft ³)	Material Weight (ton)	Water consumption (gal)	Ave. Water Consumption (gal) by Category
O	2,556	1,704	256	16	8	22	689	172	258	77	
O	10,240	6,827	1,024	32	16	26	1,639	410	615	184	
O	2,000,000	1,333,333	200,000	447	224	224	200,798	50,200	75,299	22,590	
Sub-Total										22,852	148,536.05
										Total	539,450.82

No water use was estimated for storage piles at hot mix asphalt plants. It was assumed that hot mix asphalt plants would use chemical dust suppressants to prevent additional drying time of materials, which would increase combustion emissions.

Slant height, ft = $\frac{[(1/2 \text{ side length})^2 + 400]^{1/2}}{[(1/2 \text{ side length})^2 + (\text{height})^2]^{1/2}}$
where, height = 20 feet

Perimeter = 4 sides x 0.5 x side length x height

Lateral area, ft = ~~4 x 0.5 x side length~~ perimeter x slant height

Material volume weight, ft³ ton = volume x 1.5 ton/ft³

Material weight, ton = material volume x 0.3 gal/process

Material weight (tons) = lateral area (feet²) x depth (feet) x conversion factor

where:

1 yard³ = 27 feet³

conversion factor = 1.5 tons/yard³ of aggregates

depth = 3 inches (or 0.25 foot)

Water consumption (gals.) = material weight (tons) x water consumption factor

where: water consumption factor = 0.3 gallons of water/ton material

Table C-4
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
A	5,830	1,749	
A	6,066	1,820	
A	11,000	3,300	
A	1,100	330	
A	1,050	315	
A	5500, wt material	0	
A	1100, all wet	0	
A	864	259	
A	6,066	1,820	
A	3,878	1,163	
A	1,298	389	
A	72	22	
A	3,600	1,080	
A	wet material	0	
A	6	2	
A	2,328	698	
A, CS	7,000	2,100	
A, CS	450	135	
A,C,CS	2,000	600	
A	19,671	5,901	
A	21,990	6,597	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
A	22,488	6,746	
A	15,534	4,660	
Subtotal		39,687	45,174
CB	590	177	
CB	768	230	
CB	706	212	
CB	1,060	318	
CB	3,736	1,121	
CB	2,748	824	
CB	978	293	
CB	549	165	
CB	712	214	
CB	660	198	
CB	164	49	
CB	1,372	412	
CB	660	198	
CB	1,108	332	
CB	1,442	433	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
CB	792	237	
CB	1,240	372	
CB	633	190	
CB	960	288	
CB	880	264	
CB	719	216	
CB	1,682	505	
CB	1,122	337	
CB	1,042	313	
CB	899	270	
CB	1,000	300	
CB	1,302	391	
CB	320	96	
CB	1,286	386	
CB	1,095	329	
CB	677	203	
CB	2,172	652	
CB	409	123	
CB	589	177	
Subtotal		10,822	23,025
CMB	605	182	
CMB	735	221	
CMB	374	112	
CMB	586	176	
CMB	555	167	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
CMB	460	138	
CMB	79	24	
CMB	825	248	
CMB	240	72	
CMB	245	74	
CMB	437	131	
CMB	420	126	
CMB	584	175	
CMB	1,293	388	
CMB	584	175	
Subtotal		2,407	4,011
CP	5	2	
CP	427	128	
CP	160	48	
CP	102	31	
CP	107	32	
CP	60	18	
CP	59	18	
CP	3,974	1,192	
CP	63	19	
CP	20	6	
CP	850	255	
CP	195	59	
CP	610	183	
CP	675	203	
CP	328	98	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
CP	880	264	
CP	1,045	314	
CP	227	68	
CP	90	27	
CP	103	31	
CP	219	66	
CP	360	108	
CP	46	14	
CP	10	3	
CP	67	20	
Subtotal		3,205	19,743
CS	4,808	1,442	
A, CS	1,292	388	
CS	2,500	750	
CS	9,688	2,906	
CS		0	
Subtotal		5,486	0
HMA	1,346	202	
HMA	1,122	168	
HMA	1,429	214	
HMA	1,161	174	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
HMA	2,308	346	
HMA	580	87	
HMA	600	90	
HMA	1,235	185	
HMA	5,081	762	
HMA	800	120	
HMA	1,080	162	
HMA	640	96	
HMA	720	108	
HMA	1,800	270	
HMA	1,440	216	
HMA	1,096	164	
HMA	1,295	194	
HMA	650	98	
HMA	1,100	165	
HMA	3,000	450	
HMA	1,000	150	
HMA	800	120	
HMA	1,800	270	
HMA	10,900	1,635	

Table C-4 (Continued)
Water Estimates for Process Equipment

Operation Type	Truck Ldg/Unldg - Dry (t/d)	Water for Ldg/Unldg (gal)	Water for Ldg/Unldg (gal) for PR 1157
HMA	1,885	283	
HMA	497	75	
Subtotal		6,805	11,777
O	375	113	
O	1,285	385	
O	118	35	
O	8	2	
Subtotal		536	3,482
			107,213
			375,245

Water Usage for One Process and Assumptions

- Water consumption for one process 107,213 gallons per day.
- Assumed 20 percent conveyors are already controlled to comply with Rule 403; therefore, conveyors would need only an additional 80 percent of the water consumption for one process to comply with PR 1157.
- Assumed 50 percent of screens are already controlled to comply with Rule 403; therefore, screens would need only an additional 50 percent of the water consumption for one process to comply with PR 1157.

Additional Water Consumption to Comply with PR 1157

Additional water consumption conveyors, gallons = 107,213 gallons x 0.80 = 85,770 gallons

Additional water consumption for hoppers, gallons = 107,213 gallons

Additional water consumption for surge bins, gallons = 107,213 gallons

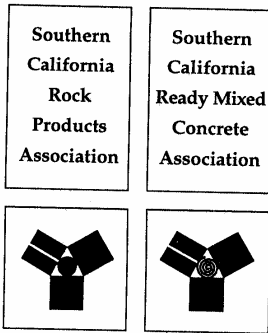
Additional water consumption screens, gallons = 107,213 gallons x 0.50 = 53,606 gallons

Total Additional Water Consumption to Comply with PR 1157

Total additional water consumption to comply with PR 1157, gallons = 85,770 + 107,213 + 107,213 + 53,606 = 353,802 gallons

APPENDIX D

COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESEMENT AND RESPONSES TO THE COMMENTS



September 30, 2004

Ms. Lee Lockie
 Director of Area Sources
 Planning, Rule Development & Area Sources
South Coast AQMD
 21865 Copely Drive
 Diamond Bar, CA 91765

Re: Comments to Draft Environmental Assessment for Proposed Rule 1157

Dear Ms. Lockie:

This letter summarizes Southern California Rock Products Association (SCRPA) concerns with items in the Draft Environmental Assessment (DEA) dated September 1, 2004.

1-1

The analysis presented in the DEA (pages 2-8 through 2-13) fails to establish a clear nexus between PR1157 requirements and the aggregate and related operations to which they will be applied. Under CEQA, it is important to establish clear causal links with regard to the impacts being disclosed. Given the information presented thus far, SCAQMD has failed to establish the measurable nexus needed to support its conclusions.

1-2

The DEA also fails to properly disclose the most pivotal information upon which PR1157 is predicated; namely the existing emissions levels being targeted for reduction. It is important that the analysis quantify the impacts, in this instance an accurate emission inventory and the degree to which the emission inventory is attributable to each type of aggregate and related operation. This failure to accurately quantify emission levels provides no valid point of reference against which to later evaluate PR1157 in terms of standards of success. As with any program designed to mitigate impacts, there is an attendant need for an evaluation program designed to determine the program's success, failure, or need for change. This analysis should begin with the quantification of the existing emission inventory and provide estimates of the:

- reductions in gross emissions estimated as a result of PR1157,
- incremental increases in emissions caused by PR1157 implementation (e.g., additional haul trips, increase used of energy to dry wetter materials, among others).

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1-2
cont.

Accordingly, SCRPA requests that all such information be described, and then summarized in one or more tables for clarity.

1-3

Returning to nexus, it is often true that a simple solution to a complex problem can create a more complex problem. Such may be the case with PR1157. Although it is readily apparent that there is a wide variety in the types of operations that are subject to PR1157, a single set of requirements is proposed. Simple in form, this approach fails to establish a measurable starting point, does not lead to reliable or measurable results, and fails to ensure there will be equity in its implementation among the affected industries.

In addition to the general comments above, the following specific items require resolution:

1-4

1. The Solis Report (page 1-6) does not provide a technical basis for PR1157. The SCRPA letter dated August 12, 2004 summarizes our issues with the Solis Report and requests that the August 15, 2003 letter from seven (7) members of Congress to the Los Angeles Regional Water Quality Control Board (LARWQCB) be included as an attachment to the Draft Staff Report.

1-5

2. As commented previously in our August 12, 2004 letter, results of the 2004 SCAQMD Monitoring Program (page 1-6) should include the factual discussion that the Notices of Violation (NOVs) are allegations and that none of the NOVs issued have been settled or 'approved'.

1-6

3. Table 1-2 of the DEA (page 1-16) presents control strategies and efficiencies however the table does not include what source is being controlled by which strategy. For instance, watering/misting is assigned a control efficiency of 60% but the table does not indicate what source will be receiving water/mist. In addition, no references for the control efficiencies are included in the table. As a point of fact, source testing performed in support of AP-42 emission factor development indicates that conveyor drop points are controlled by 95% using water/mist whereas Table 1-2 shows water/mist with hooding at a conveyor transfer point to control the emissions by only 75%. What is AQMD's technical basis for assigning control efficiencies? Is the basis more precise than a source test?

1-7

4. The emission inventory (pages 1-17 and 1-18) was revised from the 2003 Air Quality Management Plan (AQMP) to include emissions as estimated based on the survey data collected by AQMD. SCRPA supports the accurate calculation of emissions from affected facilities but has not been able to verify the emission inventory because no survey data has been provided in the Draft Staff Report or the DEA. Please provide throughputs for the calculations presented in Appendix C of the DEA in order to provide a basis for the revised emission inventory.

1-8

5. Emission reductions (page 1-18) can only be discussed in light of an accurate inventory. Since survey results and throughput assumptions have not been shared with industry, it is not possible to comment on the reductions except to assert that AQMD should show that the reductions are real, quantifiable, permanent, federally enforceable, and, particularly for stationary sources, not greater than the equipment would have achieved if operating with current Best Available Control Technology (BACT). (SCAQMD Rule 1309(b)(4))

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6. Air quality impacts were determined by AQMD staff to be less than significant (pages 2-6 through 2-16). However, SCRPA believes that the analysis is incomplete because not all emissions generated by PR1157 have been included.
- 1-9 a. Addition of water to certain products will result in increased combustion emissions, particularly NO_x, from dryers at hot mix asphalt plants. Alternatively, use of a bag house will result in increased emissions from electricity generation. In addition to air quality impacts, this issue may also affect the energy conservation analysis.
- 1-10 b. Addition of water will result in elevated moisture content in finished product. Therefore, additional truck trips will be incurred in order to haul the additional water. For instance, assuming a 1% increase in the moisture of finished product, each million tons of material produced will have an additional 10,000 tons of water. Haul trucks generally carry about 25 tons per load. Therefore, an increase of 800 one-way truck trips per percent moisture per million tons of aggregate transported is expected. In addition to the air quality impacts, this issue may also affect the traffic impact analysis.
- 1-11 c. Increased water usage will most certainly result from this rule and also requires the purchase and use of additional water trucks. Emissions from these trucks should be included in the assessment.
- 1-12 d. Penalizing spills either:
- i. Increases the number of loads needed to move a given volume without spilling; or
- ii. Requires operation of non-road equipment to perform clean-up.
- 1-13 7. Hydrology and water quality impacts were determined by AQMD staff to be less than significant when using chloride or petroleum-based chemical dust suppressants pages 2-25 through 2-30). Before making this conclusion, AQMD should consult with the LARWQCB to obtain their concurrence.
- 1-14 In addition, SCRPA observes that although hydrology and water quality is an "area that may be adversely affected" (page 2-1), the checklist for this area shows that there is "no impact" (pages 2-23 through 2-25). At least one of the significance criteria needs to be "potentially significant" or "less than significant" in order for these sections to be consistent.
- 1-15 8. PR1157 text in the DEA (Appendix B) does not reflect any working draft of the rule that was discussed with industry. AQMD should assess the environmental impacts of the actual rule and not some heretofore unseen and unsupported version of the rule.

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9. Assumptions and calculations (Appendix C) are limited in the DEA to the methodologies for calculating emissions from various sources at affected facilities. As discussed in Items 4 and 5 above, the AQMD should provide throughputs for use in the calculation methods to support the base emission inventory, or emission reduction, or conclusions. SCRPA has the following comments regarding the emission calculation methods and assumptions.
- 1-16 a. AQMD has misused an equation applicable to "maintenance of outdoor storage piles" (AP-42, Section 13.2.4.1, January 1995) by using it to estimate emissions from conveyor drops and hopper/surge bins (page C-1). Dropping material in batches from a dump truck or loader to a truck or storage pile is not the same as dropping material continuously from a conveyor or a hopper/surge bin. Evidence of this fact is found in *Crushed Stone Processing and Pulverized Mineral Processing* (AP-42 Section, 11.19.2, August 2004) which contains conveyor drop emission factors that are based on A-rated source test data. AQMD should update emission inventory and emission reduction calculations for material drops from conveyors and hoppers/surge bins using the AP-42 Section 11.19.2 emission factors.
- 1-17 b. Loading/unloading, hopper/surge bin discharge, and conveyor drop point emission calculation methods make the following assumptions without any explanation or cited reference:
- i. "For the CB, CP, and "other" categories: 50% of the throughput was assumed aggregate and 50% was assumed for sand." (page C-1)
- ii. "CF = 80%, with the assumption that control efficiency of current level of watering/misting is 20%. This control efficiency was applied to all activities and equipment, unless indicated otherwise." (page C-1)
- As discussed in Items 4 and 5 above, the DEA does not contain throughput data. Item 9.b.i begs the question, "50% of what throughput?" Throughput based on production? If so, does this throughput take into account the fact that materials other than sand and aggregate typically account for 12% of the weight of ready mixed concrete?
- 1-18 Control factors assumed in Item 9.b.ii are inconsistent with those in Table 2-1 (page 1-16). Neither the Appendix C calculations nor Table 1-2 cite a reference for any control factors used. In addition, the assumption that current levels of watering/misting are resulting in 20% control is not supported by any data provided in the DEA. See Item 2 above for additional discussion regarding control factors.
- 1-19 SCRPA finds that there is insufficient technical and throughput data in the DEA to fully evaluate these assumptions. Based on what we see, the existing levels of control may be seriously understated and the current level of emissions may be overstated. Please provide an explanation of how the AQMD arrived at these assumptions..

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- 1-20 c. Crushing and screening calculation methods assume that:
- i. For the aggregate, CMB, and HMA categories, it was assumed that 50% of the crushing activity was tertiary crushing and 50% was fines crushing, and that all crushers met BACT requirements." (page C-1).
- Fines crushing is typically used in the manufacture of sand and does not occur at most affected facilities because mineral deposits at locations within the District generally have enough natural sand to supply the market. SCRPA believes that the inventory is not accurate unless all crushing were considered tertiary.
- ii. "For the CMB categories, it was assumed that 50% of the screening activity was screening and 50% was fines screening.... CF = 50% with the assumption that control efficiency of current level of watering/misting is 50%.... For the HMA category, it was assumed that all screening equipment are controlled." (page C-2)
- Fines screening is typically used in the manufacture of sand. SCRPA comments in Item 9.b above regarding percent composition of throughput and control factors also apply here. SCRPA believes that the inventory would be more accurate if all screening were considered screening.
- 1-21 d. Open storage pile calculations present an emission factor of 0.5×0.33 lb/ton based on AP-42, Chapter 11.19.1, Table 4-1, April 1995. However, no such table and no such emission factor were found in this section. SCRPA also reviewed the applicable AP-42 section, 13.2.4 titled "Aggregate Handling and Storage Piles" as well as the related Section 13.2.5 titled "Industrial Wind Erosion" and was unable to locate the emission factor used by AQMD. Please provide the correct reference for this emission factor or an updated factor.
- 1-22 e. For unpaved road emission calculations "It was assumed that $W_{\text{haul truck}} = 100$ ton, $W_{\text{loaded haul truck}} = 150$ ton, $W_{\text{unloaded non-haul truck}} = 5$ ton, and $W_{\text{loaded non-haul truck}} = 30$ ton." (page C-3)
- SCRPA suggests the following change: "It was assumed that $W_{\text{haul truck}} = 50$ ton, $W_{\text{loaded haul truck}} = 150$ ton, $W_{\text{unloaded non-haul truck}} = 12$ ton, and $W_{\text{loaded non-haul truck}} = 40$ ton."

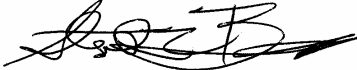
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- 1-23 f. Paved road emission calculations assume:
- i. Silt loading of 1.45 g/m^2 as determined by Catalina Pacific Concrete Company, July 2004. AQMD should note that this silt loading was obtained from sampling a controlled road. That is, the road was being swept daily by an 1186-certified sweeper. The factor used by AQMD is appropriate for controlled but not for uncontrolled emissions. SCRPA believes that uncontrolled silt loading is higher than 1.45 g/m^2 and suggests that the AQMD update the emissions inventory as appropriate.
- 1-24 ii. "It was assumed that $W_{\text{loaded}} = 30 \text{ ton}$ and $W_{\text{unloaded}} = 5 \text{ ton}$." (page C-4)
- SCRPA suggests the following change "It was assumed that $W_{\text{loaded}} = 40 \text{ ton}$ and $W_{\text{unloaded}} = 12 \text{ ton}$."
- 1-25 g. SCRPA notes that Table C-1 contains the term "dirt" and suggests that AQMD replace all instances of "dirt" with a more appropriate word such as "material."

If you have any questions or require additional clarification on any item discussed in this letter, then please contact me at 626.441.3107 or John Hecht of West Coast Environmental and Engineering at 805.644.7976.

Respectfully submitted,



Stephen L. Bledsoe
President
Southern California Rock Products Association
Southern California Ready Mixed Concrete Association

Cc: Laki Tisopulos, SCAQMD

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Responses to Comment Letter #1
**Southern California Rock Products Association/
Southern California Ready Mixed Concrete Association**
September 30, 2004

Response 1-1

Regarding the meaning of nexus as used in a CEQA context, nexus relates to the connection between mitigation and an impact being caused by a proposed project (*Nollan v. California Coastal Commission*, 483 U.S. 825 (1987)). The issue here is that agencies should forego the temptation to try to force an applicant to provide a generalized public benefit unrelated to the impacts or that would do more than fully mitigate the impacts of a project.

Relative to the proposed project, staff disagrees with the commentator's opinion that the SCAQMD has not established the measurable link needed to support its conclusions. The EA clearly establishes causal links with regard to the impacts disclosed. The environmental setting was established in Chapter 1 and significant environmental effects of the proposed project were estimated. The environmental setting and significant environmental effects were based on information gathered during a survey of affected facilities. The Southern California Rock Products Association (SCRPA) and Southern California Ready Mixed Concrete Association (SCRMCA) were involved in the development of the survey forms and assisted the SCAQMD with distribution and collection of data for association members. These data were then reviewed and entered by staff. Staff called facilities directly to clarify information that did not appear to be correct or was not understandable. Staff estimated air quality emissions impacts using emission estimation methods presented in EPA's AP-42. Clear causal links are presented between the baseline inventory based on the survey, regulations presented in the proposed rule and emission methodologies presented in EPA's AP-42.

Response 1-2

The Draft EA discloses the pivotal information, existing emission levels targeted for reduction, requested by the commentator. The existing environmental setting emissions are presented in Table 1-3. The Draft EA also presents the reductions in gross emissions estimated as a result of PR 1157 under the heading 'Emissions Reductions' on page 1-20, incremental increase in emission cause by PR 1157 under the discussion of the Air Quality Environmental area in Section 2, pages 2-7 to 2-16. Methodologies and assumptions used to estimate the emissions are presented in Appendix C. Incremental emissions increases were estimated for construction of rumble grates and presented in Table 2-2, and chemical stabilizer delivery truck trips as presented in Table 2-3. A qualitative discussion of the emissions added by sweeper trucks minus the water truck trips as a result of the road chemical stabilizer requirement was included in the Draft EA. The Final EA includes a qualitative analysis of the increase in sweeper truck trips and the decrease in water truck trips. Baseline emissions are comprehensively quantified and provide a valid point of reference against which to later evaluate PR 1157. As with other proposed rules, PR 1157 relies on established emission reduction efficiencies for proven dust reduction methods and techniques. The regulations, recordkeeping and test methods would be verified by SCAQMD inspectors. Correctly applied the regulations, recordkeeping and test methods would achieve established emission reduction efficiencies used to estimate emissions in the Draft EA.

Success and failure can be measured by the recordkeeping, SCAQMD inspector verification, and complaints about the affected facilities made to the SCAQMD by the surrounding communities.

No new haul truck trips were expected so none are presented in the Draft EA. Staff assumed that operators of hot mix asphalt plants would use chemical suppressants rather than water at their facilities (i.e., no water was estimated to be used at hot asphalt mix plants); therefore, no increased energy would be required to dry wetter materials (see the first paragraph under the heading Open Storage Pile Water Consumption on page 2-31 of the Draft EA). The basis for this assumption was detailed in the Draft EA, but further elaboration has been added to the Final Environmental Assessment (FEA).

Response 1-3

Relative to the meaning of nexus in a CEQA context, the commentator is referred to Response 1-1. The SCAQMD disagrees with commentator's opinion expressed in this comment. It is unclear what the commentator means by the statement "...this approach fails to establish a measurable starting point." As stated previously, SCRPA and SCRMCMA assisted with the development and completion of the survey forms. The entire range and variety of types of operations regulated by PR 1157 have been identified during the process of developing the survey forms with SCRPA and SCRMCMA. SCAQMD staff has worked with SCRPA and SCRMCMA over an initial meeting, a public workshop, six working group meetings and a public consultation meeting to ensure that PR 1157 can be applied to the all affected facilities and operations. Exemptions have been developed based on these discussions for facilities and operations that require them.

As noted in Response 1-2, the analysis is based on a comprehensive analysis of existing sources to quantitatively establish baseline conditions. Emission reductions are based on control efficiencies established by EPA and actual field research. As noted in response 1-2 the specific assumptions and methodologies supporting the analysis of impacts are provided in Appendix C

Response 1-4

The discussion of the Solis Report presented in the Draft EA is a summary of the report based on information extracted from the Staff Report. The Draft EA briefly mentions the Solis Report for consistency with the Staff Report and to provide background information on studies of the various industries affected by PR 1157. No description of the contents or conclusions of the report is presented in the Draft EA. Similarly, the Draft EA does not rely on this report for the analysis of environmental impacts or conclusions regarding the significance of environmental impacts. Since the Solis report has no bearing to the analysis of environmental impacts in the Draft EA, there is no reason to add this report to the Draft EA. However, since the request is to add the letter from Congress to the Los Angeles Regional Water Quality Control Board (LARWQCB) to the Staff Report, this request will be forwarded to rule development staff.

Response 1-5

The comment does not have relevance to the environmental analysis, but request further elaboration on background information. The discussions under the heading 2004 SCAQMD Monitoring Program on page 1-6 of the Draft EA are correct; however, further elaboration on the NOV process have been added to the Final EA.

Response 1-6

In responding to the industry's comments during the rule development process, staff has provided the industry with flexibility to comply with the rule in instances where alternatives can be applied. The industry should determine appropriate controls for their equipment and processes. Table 2-1 in the Draft EA is the same as the table presented on page 3-4 of the version of the Draft Staff Report which was released on November 2, 2004. The Draft Staff reports states that the projected control efficiencies were derived based on information from the EPA's Emission Factor Documentation for AP-42 (April 1995), the Texas Natural Resource Conservation Commission (TNRCC)'s Rock Crushing Plant document (February 2002), and the SCAQMD's CEQA Handbook, Chapter 11 (1993).

In AP-42, Section 11.19.1 (November 1995), EPA indicated a range of 70 to 95 percent control efficiency for spray systems at transfer points, depending on whether or not they are properly operated and how effectively they are maintained and supervised. Section 11.19.1 also added that "control efficiencies depend upon local climatic conditions, source properties and duration of control effectiveness", and emphasized that "visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factors..."

Response 1-7

The process equipment emissions were calculated based on the number of transfer points and the hourly throughputs of the equipment. These data, in most instances, are confidential and are compiled as one throughput for one operational category. However, staff is participating in ongoing discussions with the commentator and will continue to work with the commentator to assist him with the verification of the emissions inventory while protecting the confidentiality of the facilities who participated in the survey process.

Response 1-8

Please refer to response 1-7 for a discussion emission estimation portion of the comment. Staff has estimated emission reductions by applying appropriate control efficiencies of relevant and feasible control technologies and control measures. Table 2-1 in the Draft EA is the same as the table presented on page 3-4 of the version of the Draft Staff Report which was released on November 2, 2004. The Draft Staff reports states that the projected control efficiencies were derived based on information from the EPA's Emission Factor Documentation for AP-42 (April 1995), the Texas Natural Resource Conservation Commission (TNRCC)'s Rock Crushing Plant document (February 2002), and the SCAQMD's CEQA Handbook, Chapter 11 (1993).

Response 1-9

PR 1157 provides the industry with the flexibility to determine appropriate controls for their process equipment and storage piles. These controls can be water, hygroscopic materials, chemical stabilizers, baghouses, filter bags, enclosures, partial enclosures, silos, bunkers, etc. With a wide range of control options, staff assumed that water would not be used at hot mix asphalt plants. Therefore, staff did not include in its analysis increased NOx emissions from excessive drying. Further, electric utilities are subject to SCAQMD Regulation XX – Regional Clean Air Incentives Market. This program caps NOx emissions from power generating

facilities. As a result, the electricity demand from PR 1157 will not result in an increase in power generating facilities' NOx emissions above currently allowable caps. Even if NOx emissions were to exceed the annual NOx emission caps, operators of such facilities would have to reduce NOx emissions elsewhere or purchase RECLAIM Trading Credits (RTCs) in an amount necessary to offset the overage.

Response 1-10

Staff has evaluated the comment made by the commentator and has concluded that he has substantially overestimated the moisture content resulting from using misting as a dust suppressant; therefore, he has substantially overestimated the number of additional haul trucks that would be needed. The commentator assumes that the finished material would be homogeneously moist from dust suppression and that the material could hold one percent water. A representative from the commentator's organizations SCRPA and SCRMCa requested that the SCAQMD remove the moisture content requirement from an earlier version of the rule because the finished products were large enough that water would not be retained by many of the finished materials. Instead the commentator stated that the level of dust suppressant should be left to the operator as long as the general performance requirements of PR 1157 were met to prevent any dust suppressants from flowing from the piles potentially causing hydrology and water quality impacts. The representative also claimed that finished products are required to meet performance standards that include moisture content. Based on the representative's statements and assuming that facilities would only apply dust suppressants to the surface of the storage piles; staff concludes that the commentator's estimate of 800 additional trucks is a substantial overestimate of the additional number of trucks, assuming that this is even a factor.

Staff estimated that the amount of water added to the final product would be approximately 33 pounds per truck. The additional 33 pounds would only apply to trucks that carry material less than ½ inch in diameter because of the exemption provided by PR 1157. The 33 pounds of water per truck estimate is detailed in Tables D-1 through D4.

Table D-1 presents the characteristics of a storage pile with an assumed height of 20 feet and a base length of 40 feet. Based on these dimensions the total mass of the storage pile was estimated to be 593 tons of material.

Table D-1
Storage Pile Characteristics

Parameter	Equation/Source	Value
Height	Assumed	20 ft
Base length	Assumed	40 ft
Base area	Base length ²	1,600 ft ²
Side length	(Base length) ^{1/2}	6 ft
1/2 Side length	1/2 x Side length	3 ft
Slant Height	$[(1/2 \text{ side length})^2 + (\text{height})^2]^{1/2}$	20 ft
Perimeter Area of Pyramid Sides	Base length ² x Slant Height	1,620 ft ²
Pyramid volume	1/3 x Base area ² x Height	10,667 ft ³
Pyramid volume	(Volume Total, ft ³)/(27 ft ³ /yd ³)	395 yd ³
Pyramid weight	Volume Total, yd ³ x 1.5 tons/yd ³	593 ton

Table D-2 presents the estimated amount of water added to the storage pile for dust suppression. The amount of water added to the finished product was estimated from the amount of water added to the storage piles for dust suppression. It was assumed that it would only be necessary to mist the top of the pyramid and that water would percolate through approximately the top three inches of the storage pile. This is the assumption used to estimate of the amount of water usage for the hydrology and water quality section of the Draft EA. This same assumption was applied here. It was assumed that the moisture content of the three inches of wet material was one percent per the value supplied in the commentator's letter. Based on these parameters it was estimated that 0.22 ton of water was added to the storage pile for dust suppression.

Table D-2
Estimated Amount of Water in Storage Pile

Parameter	Equation/Source	Value
Depth water penetrates pile	Assumed 1 inch per watering and 3 waterings per day.	3 inch
Volume of 3" depth	Perimeter x Depth water penetrates pile	405 ft ³
Volume of 3" depth	(Volume of 3" depth, ft ³)/(27 ft ³ /yd ³)	15 yd ³
Weight of 3" depth	Volume of 3" depth, yd ³ x 1.5 ton/yd ³	22 ton material
Weight of added water	Assumed 1% of weight of 3" depth	0.22 ton water

Table D-3 presents the weight fraction of added water in the storage pile. This was estimated by dividing the weight of the water added for dust control by the total mass of material in the storage pile. The weight fraction of water was estimated to be 0.00038.

Table D-3
Weight Fraction of Water in Storage Pile

Parameter	Equation/Source	Value
Fraction of water in pile	Weight of added water/Pyramid Weight	0.00038

Table D-4 presents the estimated increase in water per truck from dust suppression. The commentator stated that each truck carries 25 tons of material per trip. Based on the weight fraction of water in the storage pile and the requirement to stabilize the truck contents with dust suppressants at a minimum of one inch down from the surface prior to entering public roads, 33 pounds of water would be added to each truck. The aggregate haul trucks can easily handle an additional 33 pounds of water per truck. Therefore, the amount of water added to the finished project is negligible and would not be expected to increase the number of truck trips per day.

Table D-4
Estimated Increase in Water per Truck

Parameter	Equation/Source	Value
Weight Hauled	Provided in comment letter	25 ton/truck
Weight Hauled	Weight Hauled x 2,000 lb/ton	50,000 lb/truck
Weight water from pile	Weight Hauled x Fraction of water in pile	19 lb/truck
Surface area of body	Assumed	152 ft ²
Depth water penetration	Assumed	1 inch
Volume of 1" depth	Surface area of body x Depth water penetration	12.67 ft ³
Volume of 1" depth	(Volume of 1" depth, ft ³)/(27 ft ³ /yd ³)	0.47 yd ³
Weight of 1" depth	Volume of 1" depth, yd ³ x 1.5 ton/yd ³	0.70 ton material
Weight water added to truck	Assumed 1% of weight of 1" depth	0.0070 ton water
Weight water added to truck	(Weight of added water, ton) x 2,000 lb/ton	14 lb water
Total Water Weight	Weight water from pile + Water added to truck	33 lb water

Response 1-11

Increase in water usage anticipated from implementing PR 1157 is presented in both the air quality and hydrology and water quality sections in Chapter 2. Additional water trucks beyond what was estimated in the Draft EA would not be required, since it is believed that most of the watering for dust suppression would be accomplished by permanent stationary misters and chemical stabilizers, which would reduce the number of trips required for watering internal unpaved roads. Based on discussions with a chemical stabilizer manufacturer representative, the amount of watering in the Draft EA is overestimated. The chemical stabilizer manufacturer representative stated that two facilities in the Basin do not water internal unpaved haul roads because diligently applying chemical stabilizers has sufficiently suppressed dust. Therefore, even fewer water trucks would be required than presented in the Final EA.

Response 1-12

The Draft EA available for public comment evaluated the environmental impacts of the August 27, 2004 version of PR 1157, which required that spills on internal road shall not be allowed or shall be maintained in a stabilized condition with chemical stabilizers until removed at the end of the day. As a result of discussions with the commentator, staff has changed the requirement in the current rule to require that spills on internal roads be removed promptly or stabilized with dust suppressants until removed at the end of the workday. PR 1157 does not require an increase in the number of loads needed to move a given volume without spilling. PR 1157 does require good housekeeping.

PR 1157 allows the industry to maintain the spills in a stabilized condition until removal (by the end of the day or as necessary, depending on the locations of the spills). A qualitative discussion on emissions from sweepers was presented in the Draft EA. The final EA includes a qualitative estimate of emission from sweepers. As stated in both the Draft and Final EAs, addition emissions from sweeper requirements of PR 1157 are less than the reduction in watering truck emissions caused by the unpaved road chemical stabilizer requirement in PR 1157. The use of chemical stabilizers would require fewer watering truck trips than applying only water to the unpaved roads; therefore, lower emissions than watering alone.

Response 1-13

The information in the Draft EA is a compilation of data on chemical dust suppressants that demonstrate that when applied according to manufacturers' instructions, they can be safely used in the environment. This information shows that nontoxic chemical stabilizers are currently available. Other dust control rules such as Rule 403 – Fugitive Dust, have allowed the use of chemical dust suppressants as a compliance option for a number of years. The burden of determining that chemical stabilizers meet any specifications, criteria, or tests required by any federal, state, or local water agency is on the user not the SCAQMD because the user is familiar with the specific circumstances of a site and, therefore, has the knowledge necessary to choose the appropriate chemical stabilizer that can be safely used for that site. The regional WQCBs have received information on this and other dust control rules and have not submitted comments opposing their use.

Response 1-14

The checklist does not reflect the conclusions in the analysis in the text. The checklist was incorrectly marked no impact for items a, b, f, k, l, m, n and o. The FEA will include the corrected checklist which will mark a, b, f, k, l, m, n and o as having less than significant impacts. Since the text of the Draft EA concludes that the adverse impacts to hydrology and water quality environmental aspect are less than significant this change does not constitute a "substantial revision;" therefore, the Draft EA does not need to be recirculated per CEQA Guidelines §15073.5.

Response 1-15

SCRPA and SCRMCAs have been apart of the PR 1157 working group and have periodically received updated versions of the rule based on discussions with the working group members. The Draft EA was released with the version of PR 1157 (August 27, 2004) available at the time, which was based on prior industry input. Staff understood that the rule was still under

development and had additional working group and public consultations planned at the time the Draft EA was released. However, rather than analyze and circulate an obviously outdated version of PR 1157, staff evaluated the most current version of the proposed rule to move the discussion and progress of rule development forward. The SCAQMD is required to promulgate AQMP control measure BCM-08, which forms the basis of PR 1157, as expeditiously as possible. As has been the case in the past, circulation of the CEQA document does not terminate further modifications of a proposed rule. A proposed new rule or rule amendment may continue to change after circulation of the CEQA document based on stakeholder input. The SCAQMD must evaluate whether or not subsequent changes to a proposed rule are within the scope of the analysis or constitute substantial new information. After release of the Draft EA, PR 1157 has been altered twice to accommodate suggestions made by the working group. No modifications to the proposed rule have changed the project description, objectives or conclusions included in the Draft EA. Therefore, the modification to the rule does not require recirculation of the Draft EA (CEQA Guidelines §15073.5).

Response 1-16

Staff strongly disagrees with the commentator's opinion regarding misusing the equation applicable to outdoor storage piles. As stated in AP-42, Section 13.2.4 (January 1995), the equation is applicable to either type of drop operation (batch drop operations such as loading/unloading using trucks, and continuous drop operation such as loading/unloading using conveyors or hopper/surge bins). The emission factor of 0.0011 pound of PM₁₀ per ton of material is also listed in AP-42, Section 11.19.2 (August 2004) as an uncontrolled emission factor for the conveyor transfer point. The Texas Natural Resource Conservation Commission also used this emission factor for estimating PM emissions at transfer points.

Response 1-17

Due to the lack of information in the surveys, staff was unable to identify the exact percentage of aggregate and sand handled by concrete batching and concrete product categories. To simplify the process and based on the lack of precise information, it was assumed that 50 percent of the hourly throughput is sand and 50 percent is aggregate. This assumption is supported by data of a typical composition of a typical cubic yard of concrete (4,000 pounds) where 1,900 pounds is for aggregate, 1,740 pounds for sand, cement, and fly ash, and 360 pounds of water (per County of San Diego).

With regard to the current control level, staff is aware that many of the aggregate facilities subject to this rule have instituted voluntary controls at their process equipment and storage facilities. Operators of most facilities; however, have not implemented these same controls. To assume that most operators of affected facilities would have to install control equipment provides a "worst-case" environmental analysis as this maximizes potential secondary environmental impacts that may be created by the control equipment.

The purpose of Rule 1157 is to further reduce PM₁₀ emissions from affected facilities, which may require installing controls that go beyond the requirements of Rule 403. While a small fraction of the permitted equipment may have gone through NSR, many of the emission sources are not subject to permitting, and thus, exempt from the NSR evaluation. It is important to note that the sources that are not subject to the NSR evaluation are the most significant contributors to

the emissions inventory. Furthermore, based on survey results and staff observations, staff assumed 90 percent and 50 percent control efficiencies, respectively for crushers and screeners where in most instances, baghouses or filter bags are equipped to control PM₁₀ emissions. Finally, as noted in Response 1-7, information on throughput is considered to be confidential information and cannot be released publicly.

Response 1-18

The control factors presented in Table 1-2 are representative expected control efficiencies required to meet the general performance standards required by PR 1157. The control efficiency for existing watering/misting was developed by staff based on an estimate of control efficiency for the watering/misting documented during site visits. Staff observed that watering/misting was currently practiced at some visited sites; however, the level of watering/misting control was considered to be less than what would be required by PR 1157. Therefore, staff estimated that the control efficiency for existing watering/misting was approximately 20 percent. If the control efficiencies are demonstrated to be higher than the 20 percent, they may already be in compliance with PR 1157 or may be able to attain compliance with changes to existing system.

Response 1-19

With regard to information on throughput data, the commentator is referred to Response 1-7.

Response 1-20

As stated earlier, due to the lack of survey data, staff didn't have the exact percentages of controlled tertiary and fine crushing as well as percentages of controlled screening and fine screening. To simplify its estimates and based on its observation, staff had made reasonable assumptions that 50 percent of the crushed materials were conducted with a controlled tertiary crusher and 50 percent with a controlled fine crusher, and the same assumptions for screens. These assumptions were confirmed with the flowcharts for typical rock, sand, and gravel processing plants where both fine crushers and fine screeners were used (Figure 11.19.2-1, AP 42, Section 11.19.2, August 8, 2004, and Figure 2-1, AP 42, Section 11.19.1, April 1995).

Response 1-21

The reference for the 0.33 pound per ton emission factor was correctly presented in the staff report. Staff has provided the commenter with a copy of AP-42, Section 11.19.1 (April 1995) where Table 4-1 was found. In addition, rule development staff have met with and explained to the commenter that the 0.33 pound per ton emission factor was for total suspended particulate; therefore, the emissions factor for PM₁₀ would only be 0.165 pound per ton. This emission factor accounted for both active and inactive periods and included emissions from wind erosion, vehicle traffic, and material handling.

Response 1-22

The weight of unloaded and loaded haul trucks (100 and 150 tons) was provided to staff by an industry representative working group member who is familiar with the weight of haul trucks. The weight of an unloaded non-hauled truck (five tons) was based on the definition of medium-duty vehicles by ARB. The weight of a loaded non-haul truck (30 tons) was provided to staff by same working group member who provided staff with the haul truck weights. Based on the fact

that the weight of each haul truck is provided by a reliable source, the unpaved emission calculation using the weights identified in the Draft EA remain unchanged.

Response 1-23

The Colton silt loading sampling result of 1.45 grams per square meter was provided to Ms. Tuyet-Le Pham of the SCAQMD by Catalina Pacific Concrete in a letter from Mr. Jay Grady, the Environmental Matters Manager, titled Proposed Rule 1157, Paved Road Silt Loading Information. No date was provided on the letter. The letter does not state that the small broom sweeper used to estimate the silt loading sampling result was Rule 1186 compliant. Rule development staff used the Colton silt loading sampling result to estimate the emissions from existing sweeping, which was assumed to be non-Rule 1186 compliant. Using the Rule 1186 compliant silt loading sampling result to estimate the baseline emissions provides a more conservative estimate than using the non-Rule 1186 compliant silt loading sampling result, since the baseline emissions would also be lower. In addition, the amount of emissions from paved roads is small compared to the overall emissions (two percent of the overall emissions as reported in the survey). Because the sweeper requirements of PR 1157 would still result in a reduction in track-out emissions, a revision of the baseline emissions and emission reductions would not effect the conclusions presented in the Draft EA. Therefore, because existing emission estimates are conservative and would not effect the conclusions of the environmental analysis, rule development staff did not revise the emissions and emission reduction estimate for sweeping paved roads.

Response 1-24

As explained in Response 1-22, the weight of an unloaded non-haul truck is five tons based on the definition of medium-duty vehicles and the weight of the loaded non-haul truck was provided by an industry representative working group member who is familiar with the weight of loaded non-haul trucks. Based on the fact that the weight of the non-haul truck is provided by a reliable source, the unpaved emission calculation using the weights identified in the Draft EA remain unchanged.

Response 1-25

The term “dirt” was replaced with the term “material” in the Final EA.

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October 1, 2004

South Coast Air Quality Management District
 CEQA
 21865 Copley Drive
 Diamond Bar, California 91765-4182

Attention: Mr. James Koizumi

**Subject: Comments on Draft Environmental Assessment,
 Proposed Rule 1157**

Ladies and Gentlemen:

I am a consultant assisting Fourth Street Rock Crusher (FSRC) of San Bernardino in the evaluation of the proposed rule. FSRC is an entity affected by the proposed rule. This letter presents comments on the draft Environmental Assessment of the proposed rule.

I have previously commented on the proposed rule, and participated in a public hearing and one working group discussion of the proposed rule provisions. From my participation, I have concluded that all aspects of the rulemaking are proceeding on a rushed timetable. As such, insufficient information has been developed to adequately evaluate baseline emissions, and the potential reductions from proposed control technologies. At least one of the technologies proposed does not currently exist within the local aggregate industry. Consequently, insufficient data has been developed to perform an adequate environmental assessment. Also, the rulemaking process is so rushed to make a November Board adoption that essentially at one month from adoption, the economic assessment of the proposed rule has yet to be presented to the regulated industry.

2-1

Rulemaking in such haste causes important issues to be overlooked as is exemplified in the shortcomings of the environmental assessment. As noted above, insufficient investigation and development of data necessary for reasonable rule development has occurred. Assumptions and opinions appear to have been substituted for analysis in both the proposed rule, and in the environmental assessment. Baseline emissions, as identified in the proposed rule staff report, and in the EA are assumptions modified by guesses. Estimated reductions of PM emissions used in the analysis are also lacking in scientific documentation. Opinion in the absence of facts does not qualify as adequate environmental assessment. The following paragraphs present examples of the absence of suitable environmental analysis.

2-2

Conveyor end chutes, required in the proposed rule, are not components currently in use at aggregate facilities within the South Coast AQMD. As such, there is no available data regarding potential emissions caused by the impact of aggregates at the chute's opening, nor are there data regarding the potential noise generated by such devices.

2-3

In the assessment of potential water quality impacts from stabilizing agents, no calculations of additional salt and hydrocarbon loadings of such compounds are presented, nor the increases in

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receiving waters concentration of such compounds. The EA cites a number of regulatory agencies acceptance of the use of such agents, under limiting conditions. The EA states:

It is important to note that the RWQCB for the Colorado River Basin - Region 7, reviews applications for use of brine-based chemicals (i.e., calcium chloride and magnesium chloride) for dust control on a case-by-case basis (Gruenberg, 1994). This RWQCB conditionally approved the use of Lee Chemical, Inc's' Liquid Calcium Chloride in Colorado River Basin, Region 7, provided the Best Management Practices identified by Lee Chemical, Inc. are adhered to (Gruenberg, 1996).

2-3

CONT.

What is important in the preceding quote that is misconstrued by the EA, is that the use of such compounds is thoroughly scrutinized. Their use is approvable on a case-by-case, useable then only under stringent controls, in a region of the state with significantly less than half the average annual rainfall than in the preponderance of the District. These compounds are scrutinized because they have the potential to significantly degrade waters of the state. Again, opinion in the absence of facts does not qualify as adequate environmental assessment. To provide adequate environmental assessment, the additional use of such compounds must be quantified, and the incremental increase in pollutant loading to water resources estimated.

Assessment of the impacts from increased water consumption arrives at the wrong conclusion. The EA identifies an additional 1.4 million gallons per day (1600 acre-feet per year) water usage resulting from the proposed rule. This translates to an amount of water which would supply approximately four thousand homes (one acre-foot per year is sufficient for two to three households). The state legislature has decreed that addition of 500 homes in a community requires substantive evaluations and justifications on top of CEQA due to the water consumption impacts. The EA compares the increment with the total supply from the Metropolitan Water Districts of Southern California (MWD), in an attempt to make the additional consumption appear insignificant. The majority of the projected growth in the AQMD is also in regions which is not within MWD, and have more precarious water supplies. The cumulative impacts of the additional consumption can be severe, depending upon the source of the water. The EA concluded, erroneously, that there is no impact. In truth, and in fact, the impact is potentially significant in and of itself, and definitely significant in a cumulative sense.

2-4

2-5

If this rule were a project of a private entity, it would require an Environmental Impact Report. The AQMD must use the same basis for CEQA compliance as any other entity in the state.

Thank you for the opportunity to present my comments.

Very truly yours,
BULOT, Inc.



Mark W. Bulot

Responses to Comment Letter #2
Bulot, Inc.
October 1, 2004

Response 2-1

SCAQMD disagrees with the commentator's opinion that insufficient information has been developed to adequately evaluate baseline emissions, and the potential reductions from proposed control technologies. Baseline information was developed from a survey of the affected industry. The survey forms were developed with input from the working group. No comments were received on the final survey sheets. The baseline emissions are presented in Table 1-3 and emission reductions are discussed in the associated text. In summary, baseline emissions of PM from the affected industries are 29 tons per day and PR 1157 is expected to reduce these PM emissions by 18 tons per day. Appendix C of the Draft EA presents assumptions and methodology used to estimate emissions from the data collected during the survey.

The commentator made general comments about what he perceived to be "assumptions and opinions that appear to have been substituted for analysis," and that "baseline emissions...are assumptions modified by guesses." The commentator states that paragraphs following these statements that he would provide "examples of absence of suitable environmental analysis;" however, no examples of these "opinions" and "guesses" are given. To prepare the environmental analysis, conservative assumptions are typically necessary to estimate emissions. Using conservative assumptions ensures that the maximum impact from a project is identified and disclosed. The use of assumptions is not incorrect; however, the validity and veracity of assumptions may be demonstrated to be correct or incorrect. If the public provides better assumptions and a source supporting the better assumptions, they will be incorporated. Since no detail was provided for these generalizations by the commentator on the assumption used in the Draft EA, the analysis has not changed based on comments submitted by the commenter, a generalized reply will be provided here. Detailed environmental analyses are provided in Chapter 2. SCAQMD staff developed baseline emissions and emissions reductions using information provided by the affected industries in a survey; standard assumptions, methodologies, emission factors; and control efficiencies presented in EPA's AP-42 and used for SCAQMD permitting. Appendix C includes documentation of the assumptions, methodologies, emission factors, and control efficiencies. No "opinions" or "guesses" were used in the development of the baseline emissions or emission reductions.

Since the survey forms were completed by the affected industry; assumptions and methodologies used to estimate emissions, as well as the estimated emissions, were presented in the Draft EA, sufficient information has been provided to adequately evaluate baseline emissions, and potential reductions from proposed control technologies.

The commentator states that "at least one of the technologies proposed does not exist within the local aggregate industry," but does not identify the technology. It is assumed that the commentator is referring to telescopic chutes. Chutes have been removed from the proposed rule.

The Draft EA used the staff report as a source of information; the commentators may address the portions of the staff report that the Draft EA relied on for the analysis. The commentator did not provide specific examples of deficiencies he perceived in the Staff Report, so no specific response can be provided. As stated above, staff developed baseline emissions and emissions reductions using information provided by the affected industries in a survey, and standard assumptions, methodologies, emission factors, and control efficiencies presented by EPA AP-42 and used for SCAQMD permitting. Appendix C includes documentation of the assumptions, methodologies, emission factors, and control efficiencies. No “opinions” or “guesses” were used in the development of the baseline emissions or emission reductions.

The socioeconomic impact report was released for public review on October 10, 2004. Since the Draft EA did not rely on information provided in the socioeconomic report, there is no requirement that the two documents be released for concurrent review. CEQA does not provide guidance for time periods required for the socioeconomic report. Therefore, comments on the release of the socioeconomic report will not be addressed here.

The commentator states that he believes that additional time is required before PR 1157 is presented to the Governing Board. The rule development schedule is outside the scope of and; therefore, unrelated to the environmental analysis in the Draft EA. However, the commentator should be aware that during the October Governing Board hearing, the Governing Board postponed the public hearing for PR 1157 from November 5, 2004 to December 3, 2004. Therefore, the commentator has an additional month before the rule is presented to the Governing Board.

Response 2-2

Based on input from affected industry representatives, staff has deleted the requirement for chutes from the proposal.

Response 2-3

The Draft Staff Report states that estimates 5,535,870 square feet (615,097 square yards) of internal unpaved roads and 263,853 square feet (29,317 square yards) of storage piles would require chemical stabilization. Approximately 0.5 gallon per square yard⁷ of magnesium chloride is used to stabilize unpaved surfaces. Therefore, 307,548 gallons of magnesium chloride (5,799,723 square yards x 0.5 gallon per square yard) would be required to stabilize the internal unpaved roads and storage piles. Since, it is estimated that two applications would be required each year to achieve sufficient dust suppression; 644,414 gallons of magnesium chloride would be required per year. The amount of pollutant loading is based on the characteristics of the chemical stabilizer and the facility where it is applied. As stated in the water quality analysis in the Draft EA, facilities should contact the RWQCB to determine whether a product is environmentally safe and to ensure that runoff does not migrate to a surface body of water and does not flow from the use-area. Facilities should address magnesium chloride use in their stormwater management plan.

⁷ EPA, Potential Environmental Impacts of Dust Suppressants “Avoiding Another Times Beach” An Expert Panel Summary, Las Vegas, Nevada, May 30-31, 2004, EPA/600/R-04/031, March 2004.

The Draft EA contains comprehensive information on the physical and chemical properties of chemical dust suppressants in the water quality section in Chapter 2. SCAQMD is aware that the Colorado River Basin RWQCB approves chemical suppressants on a case-by-case basis since the commenter's quote is from the Draft EA. The Draft EA also recognizes that a number of factors will affect the approval of a particular chemical dust suppressants as noted in the following excerpt from the Draft EA. "The report [Leslie Salt, 1989] concludes that "the salt concentration in the leachate percolating through the soil becomes significantly diluted due to dispersive transport. Therefore, the amount of dissolved salts from "Dust-Off" that could potentially enter a groundwater system depends on the location of the water table, the quantity of "Dust-Off" applied, and the number of years of application."

The information in the Draft EA is a compilation of data on chemical dust suppressants that demonstrate that when applied according to manufacturers' instructions, they can be safely used in the environment. This information shows that nontoxic chemical stabilizers are currently available. Other dust control rules such as Rule 403 – Fugitive Dust, have allowed the use of chemical dust suppressants as a compliance option for a number of years. The burden of determining that chemical stabilizers meet any specifications, criteria, or tests required by any federal, state, or local water agency is on the user not the SCAQMD because the user is familiar with the specific circumstances of a site and, therefore, has the knowledge necessary to choose the appropriate chemical stabilizer that can be safely used for that site. The regional WQCBs have received information on this and other dust control rules and have not submitted comments opposing their use.

Response 2-3

Chemical stabilizers are defined by PR 1157 as any non-toxic chemical dust suppressant. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. PR 1157 includes an exemption for the use of chemical stabilizers on internal unpaved roads if the applicable chemical dust suppressant on those specific roads violates the rules and/or regulations of the local Water Quality Control Board or other governmental agency.

Based on the above discussion, the Draft EA contains an adequate and comprehensive analysis of chemical dust suppressants.

Response 2-4

In this comment, it appears that there is confusion between the SCAQMD's water demand significance criterion of five million gallons per day and the SB610 trigger requiring consultation between a city or county and water agencies. The analysis of water demand impacts presented in the Draft EA clearly indicates that water demand impacts from implementing PR 1157 do not exceed the SCAQMD's water demand significance criterion of five million gallons per day.

It is likely that the SB 610 requirement does not apply to this project because CEQA Guidelines §15083.5 explicitly states that it applies to cities or counties. Further, PR 1157 does not conform to the list of projects identified as being subject to the requirements of CEQA Guidelines §15083.5. CEQA Guidelines §15083.5 may require substantive evaluations and justifications by

the cities our counties, but these are considered to be outside the scope of the CEQA analysis for PR 1157.

The comparison of water demand impacts to the supply of water provided by MWD is intended to demonstrate that the major water purveyor in southern California alone could supply the anticipated future demand for water. The intent of SB 610 is to determine whether or not existing water suppliers have the capacity to supply water for a particular project. Demonstrating that a single water purveyor in southern California has the capacity to meet the future water demand fulfills the intent of SB 610. The SCAQMD understands that there are additional purveyors of water, such as Los Angeles Department of Water and Power (which supplies approximately 35 percent of the area's total water supply (SCAQMD, 2003⁸), Imperial Irrigation District (which recently approved a transfer agreement to sell up to 300,000 acre-feet of excess water to the San Diego Water Authority), Coachella Valley Water District (year 2003 sales of 118,839 acre-feet, Annual Review 2003 – Coachella Valley Water District), Metropolitan Water District of Orange County (FY 1999-2000 water usage was 674,000 acre-feet, excluding agricultural use, 200 Regional Urban Water Management Plan Update), etc. Based on the number of water purveyors within the district, water demand from PR 1157 is within their ability to supply future anticipated water demand.

The SCAQMD's policy regarding cumulative impacts is that if a project's impacts do not exceed the project-specific significance criteria, they are not considered to be cumulatively considerable. Projects deemed to contribute impacts that are less than cumulatively considerable are not considered to be significant for cumulative impacts (CEQA Guidelines §15130(a)(3)). The SCAQMD's conclusion that cumulative impacts, including water demand impacts, are not significant is consistent with CEQA Guidelines §15130(1)(3).

Response 2-5

Regardless of who proposes a project, if the environmental analysis demonstrates that no significant impacts are generated, it qualifies for a negative declaration, mitigated negative declaration or negative declaration equivalent. SCAQMD comprehensively analyzed potential adverse impacts from implementing PR 1157 and concluded that no environmental impacts will exceed any of SCAQMD's established significance thresholds. Because no significant adverse impacts were identified, PR 1157 does not require an Environmental Impact Report equivalent document. The commentator has not provided any data or other information that would alter any of the conclusions in the Draft EA.

⁸ Final Program Environmental Impact Report for the 2003 Air Quality Management Plan. Sch. No.2002081137, August 2003