

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for:

Proposed Rule 1127 - Emission Reductions from Livestock Waste

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SCAQMD No. 040330MK

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PREFACE

The Draft Environmental Assessment (EA) for the proposed amendments to Rule 1127 – Emission Reductions from Livestock Waste was circulated for a 30-day public review and comment period from March 30, 2004 to April 28, 2004. No public comment letters were received that directly comment on the Draft EA and minor modifications were made to the Draft EA so it is now a Final EA. Deletions and additions to the text of the EA are denoted using ~~strike through~~ and underlined, respectively. Changes to the project description are minor and do not change the conclusions made in the Draft EA or worsen the environmental impact analyzed in the Draft EA. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information provided does not result in new avoidable significant effects.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

Legislative Authority

California Environmental Quality Act

Project Location

Background

Project Objective

Project Description

Compliance Options

INTRODUCTION

The area within the South Coast Air Quality Management District's (SCAQMD) jurisdiction exceeds state and federal ambient air quality standards for PM10 (fine particulate matter less than 10 microns in diameter) and ozone. In 2003, the SCAQMD prepared and adopted an Air Quality Management Plan (AQMP) that included a control measure (WST-01) to reduce PM10 and volatile organic compound (VOC) emissions from livestock waste. This control measure was carried over from the 1997 AQMP. The control measure calls for a 50 percent reduction in ammonia, either through relocation or control, and a 30 percent reduction in VOC emissions from 1997 levels by 2006. The purpose of proposed Rule (PR) 1127 is to implement the AQMP control measure by reducing the amount of ammonia (a PM10 precursor) and VOC (an ozone precursor) emissions generated from livestock waste. According to the 2003 AQMP, the baseline VOC and ammonia inventories for livestock waste are 12.1 tons per day of VOC and 21.2 tons per day of ammonia emissions from dairy operations. The control measure emission reduction goals can be met through dairy relocations, complying with existing water quality regulations and PR 1127 control requirements. PR 1127 control requirements focus on specific manure disposal requirements, not on the dairy controls of stationary sources. PR 1127 requires operators of dairy farms to implement best management practices, including clearing corral and any stockpiles four times per year. Additionally, PR 1127 requires operators disposing manure within the SCAQMD jurisdiction to remove manure to: (1) approved agricultural land within the SCAQMD; ~~or (2) a location outside the SCAQMD;~~ or (2³) a manure processing operation. If processing manure, the only approvable operations allowed are: (1) an anaerobic digester; or (2) a Rule 1133.2-compliant composting facility; or (3) an alternative manure composting facility as defined in the proposed rule.

Types of affected facilities include agricultural operations or facilities that are directly related to producing milk from cows for the purpose of making a profit or for a livelihood. PR 1127 is applicable to dairy farms or facilities in the South Coast Air Basin (Basin) that have 50 or more milking cows. Facilities that have fewer than 50 cows, ~~or have only~~ heifers and/or calves are currently exempt from PR 1127 requirements.

LEGISLATIVE AUTHORITY

The California Legislature created the SCAQMD in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the Basin and in portions of the Salton Sea Air Basin and Mojave Desert Air Basin, referred to collectively as the district. By statute, the SCAQMD is required to adopt an AQMP which outlines plans and programs to achieve compliance with national and state ambient air quality standards for all areas within the district². The SCAQMD must then adopt rules and regulations that carry out the AQMP³. PR 1127 implements AQMP control measure WST-01 and is expected to reduce ammonia and VOC emissions from dairy livestock waste, which will help achieve state and national ambient air quality standards in the district.

¹ The Lewis-Presley Air Quality Management Act, Health & Safety Code, §§40400-40540.

² Health & Safety Code, §40460 (a).

³ Health & Safety Code, §40440 (a).

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PR 1127 is a “project” as defined by the California Environmental Quality Act (CEQA) [Cal. Public Resources Code §21065] and the SCAQMD is the lead agency for the proposed project. 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 the regulatory program. The SCAQMD’s regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

An environmental impact is defined as an impact to the physical conditions which 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 SCAQMD Rule 110 both require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified.

In November 2002, an initial version of PR 1127 was released to the public along with a preliminary evaluation of environmental impacts from implementing the proposed rule. This initial evaluation identified air quality and transportation/traffic as potential adverse significant impacts. As a result, a Notice of Preparation (NOP) of a Draft EA for PR 1127, including the Initial Study (IS), was prepared and distributed to responsible agencies and interested parties for a 30-day review and comment period from November 1, 2002, to December 3, 2002. Potential adverse impacts to other environmental areas were not identified in the IS. Two comment letters were received regarding the environmental analysis in the NOP/IS during the 30-day public review and comment period. However, since the release of the NOP/IS, the project description has changed. Under the new project description, the potential environmental impacts will not be significant and, therefore, an NOP/IS is not necessary. The comment letters on the previously released NOP/IS ~~will were~~ not ~~be~~ responded to or included in ~~this the~~ Draft EA. The ~~Draft~~ EA is a substitute document prepared pursuant to §15252. Alternatives were not identified and evaluated because review of the project showed that the project would not have any significant or potentially significant effects on the environment (CEQA Guidelines §15252(b)(2)). In accordance with CEQA Guidelines §15105(b), ~~this the~~ Draft EA with no significant impacts ~~will was be~~ circulated for public review and comment for 30 days.

Comments received during the public comment period on the analysis presented in this Draft EA ~~will bewould have been~~ responded to and included in the Final EA, ~~however, no CEQA comment letters were received~~. Prior to making a decision on the proposed project, the SCAQMD Governing Board must review and certify the EA as providing adequate information on the environmental impacts of the proposed rule.

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 subarea of the SCAQMD’s jurisdiction, is bounded

by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The entire district is shown in Figure 1-1.

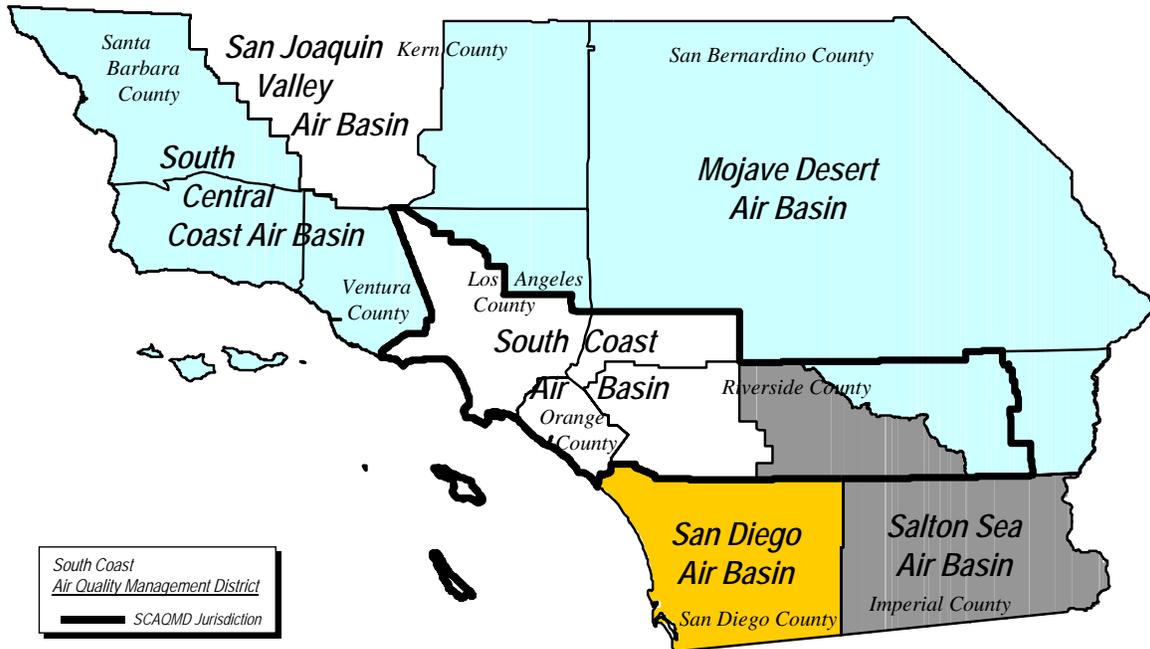


FIGURE 1-1

South Coast Air Quality Management District

BACKGROUND

Dairy Operations in the South Coast Air Basin

PR 1127 applies specifically to dairy farms within the Basin. A dairy farm or facility is an agricultural operation directly related to raising cows or producing milk from cows for the purpose of making a profit or for a livelihood. The proposed rule exempts dairy farms with less than 50 cows, ~~and farms that have only~~ heifers and/or calves. The lifecycle of a cow is determined by weight and/or age.

Baby calves: cows up to three months of age.

- Calves:** cows three to 12 months of age.
Heifers: cows 12 to 24 months of age (a cow which is bred for the first time within this time period becomes a “first-bred heifer” or “springer cow”).
Milking cow: lactating cow.
Dry cow: cow which is not milked (e.g. dried up) 45-60 days before giving birth.

According to the Santa Ana Regional Water Quality Control Board’s (SARWQCB) annual inventory of the dairy industry, in 2002 there were 314 dairies in the Basin with 204,846 milking cows, 36,201 dry cows, 75,582 heifers and 77,320 calves (“Results of 2002 Annual Report of Animal Waste Discharge Analysis”, May 8, 2003, SARWQCB). Most of the dairies are located in the Chino-Ontario-Norco region, with the remaining dairies in the San Jacinto watershed region (eastern Riverside County, near Moreno Valley-Lake Elsinore-Hemet) and Upper Santa Ana.

The Chino-Ontario-Norco region is a 15,000 acre area in southwestern San Bernardino and Riverside counties, and has one of the densest dairy cow populations in the country. The resulting manure from these dense herds of cows produces large amounts of ammonia in a relatively small area.

Most dairy farms in the Basin are “dry lot corral” dairies. Dairy cows live in open corrals, with feed lanes usually along one side of the corral (Figure 1-2).



FIGURE 1-2
Cows at the Feedlane

Manure is generally cleared from the feed lane into the corral (Figure 1-3) and then periodically removed from the corral to on-site stockpiles, to off-site locations or spread on cropland at the dairy as a soil amendment.



FIGURE 1-3

Cows at the Watering Trough in the Corral

The high concentration of animals per acre of land results in a large volume of manure stored in corrals and stockpiles. Because most dairy operations are clustered in a relatively small area with a high density of dairy livestock herds, substantial amounts of manure are produced in a concentrated area.

The Chino Basin is considered to have the highest concentration of dairy animals in the world within an area of less than 50 square miles. Stockpiles of manure and the application of manure to the ground in the Chino Basin have resulted in substantial groundwater pollution, specifically from total dissolved solids (TDS) and nitrate. Contaminated groundwater in the Chino Basin also adversely affects the quality of the Santa Ana River because groundwater from the Chino Basin contributes to the surface flow of the Santa Ana River.

Beginning in 1992, and continuing through 1994, the SARWQCB regulatory approach for concentrated animal feeding operations (CAFOs) was to issue individual waste discharge requirements for each animal feeding operation. Changes in the location, size, number of animals, or operator of these facilities were frequent and necessitated continually rescinding existing waste discharge requirements and issuing new requirements. As a result, in 1994 the SARWQCB adopted Order No. 94-7, which outlined "general" waste discharge requirements for all CAFOs, including non-dairy related facilities. SARWQCB Order No. 94-7 expired in March 1999.

SARWQCB Order No. 99-11

In October 1999 the SARWQCB adopted Order No. 99-11⁴ relating to CAFOs in the Santa Ana River Watershed (which includes all of the South Coast Air Basin). Order No. 99-11 establishes general waste discharge requirements for CAFOs (dairies and related facilities) within the SARWQCB's area of jurisdiction.

Specifically, Order No. 99-11 requires that stockpiled manure be removed from each facility (e.g. dairy) within 180 days after being removed from the corrals beginning in year 2000. The intent of the order is to reduce stockpiling of manure at affected facilities for extended periods of time which had been occurring previous to the specific manure removal requirement. Providing 180 days of storage was determined to allow the moisture content of the manure to be sufficiently reduced, making it lighter per unit of volume, and easier and less expensive to haul. As a result, CAFOs generally remove manure from their corrals twice a year. Allowing up to 180 days (six months) storage will result in manure being removed from the facility prior to the next corral cleaning and will still achieve the goal of preventing the long term accumulation of manure at CAFOs.

In addition to the annual corral manure removal requirement, existing stockpiles of manure were required to be removed. Previous to the specific requirements for stockpiles, the dairies could accumulate huge stockpiles of manure or send the manure to other facilities where the manure would be stockpiled. These stockpiles, which created 1.37 tons per day of ammonia emissions and 0.48 tons per day of VOC emissions, were removed between the years of 2000 and 2002. Thus, ammonia and VOC emissions from these stockpiles were reduced from the Basin's baseline inventory. However, while these emission reductions will be accounted for in the AQMP inventory, they will not be claimed as emission reduction from PR 1127.

In accordance with Order No. 99-11, dairy operators must remove the manure from the dairy farms, but disposal options are relatively limited. For example, few dairies have croplands on which to spread the manure, there are only a few local co-composting facilities that could receive some of the manure and these are currently at capacity, and the only local anaerobic digester that could accept manure has limited capacity to process the additional manure. Currently, most of the manure removed from the dairies is transported to other areas of the Basin and to areas outside the Basin, such as Imperial County or San Joaquin Valley, for processing and use as fertilizer or a soil amendment.

The dairies currently transport manure to agricultural areas (cropland) outside the Basin, but within the district, however, there are a limited number of these areas that accept manure. Increased urbanization and continuing water quality related restrictions on land spreading of manure, will continue to reduce the availability of this option for manure disposal.

Table 1-1 provides the estimated current manure disposal practices and the amount of manure disposed in current year 2004 from dairy operations located in the SCAQMD jurisdiction. The estimated amount of manure is anticipated to decrease over the years due to the annual migration of current dairy operations from the Basin. The existing open

⁴ General Waste Discharge Requirements for Concentrated Animal Feeding Operations (Dairies and Related Facilities) within the Santa Ana Region, Order No. 99-11, NPDES No. CAG018001.

windrow composting facility is also expected to close in the near future. Due to the continuing need to dispose and/or process the manure, alternative manure processing operations are expected to be established. The manure currently being sent to the windrow composting is expected to be composted at an alternative manure processing facility in the future. The locations or number of alternative manure processing facilities in the future is unknown at this time.

TABLE 1-1
2004 Current Manure Disposal Practices

Disposal Practice	Estimated Amount of 2004 Manure (tons per year)
Digester	18,250
Land Application	852,204
Composting (open windrow)	226,415
Sent out of the Basin	184,259
Unknown	5,145
TOTAL Annual Manure in 2004	1,286,271

California Senate Bill (SB) 700

Prior to the approval of SB 700, California state law exempted equipment used at agricultural facilities from the permit system of local air pollution control districts. Equipment used at agricultural facilities represents a significant source of air pollution throughout the state. With the exemption from permitting, agricultural facilities were not included in the state's Title V permitting program required by the Federal Clean Air Act. The United States Environmental Protection Agency (USEPA) proposed disapproving the state's Title V permitting program because of the exemption and the significant source of air pollution that agricultural operations represent. SB 700 was adopted to harmonize state and federal permitting requirements and to recognize the contribution to the air pollution problem that agricultural operations represent. To avoid federal sanctions, on September 22, 2003, Governor Davis signed SB 700, which revised state law to remove the agricultural permitting exemption. In addition to correcting the deficiencies cited by USEPA, SB 700 mandates new permitting and pollution control requirements for agricultural sources in California and requires that agricultural sources be treated similar to other sources of air pollution.

SB 700 requires each district that is designated a serious federal non-attainment area for an applicable ambient air quality standard for PM as of January 1, 2004, to adopt, implement, and submit for inclusion in the state implementation plan (SIP), a rule or regulation requiring Best Available Control Measures (BACM) and Best Available Retrofit Control Technology (BARCT) for agricultural practices at agricultural sources of air pollution to reduce air pollutants from those sources for which that technology is applicable for

agricultural practices by the earliest feasible date but no later than January 1, 2006. SB 700 also requires each district subject to those requirements to comply with a schedule for public hearing, adoption, and implementation of the final rule.

In addition, the bill requires, by July 1, 2006, each district that is designated as a federal non-attainment area for ozone as of January 1, 2004, to adopt, implement, and submit for inclusion in the SIP, a rule or regulation that requires the owner or operator of a large confined animal facility as that term is defined by the state board to obtain a permit to reduce, to the extent feasible, emissions of air contaminants from the facility. State law also provides that a district may require smaller confined animal facilities to obtain a permit subject to certain findings.

The bill removes the exemption from permit requirements for agricultural sources at larger agricultural facilities. The bill further provides that equipment at smaller facilities may be subject to permit provided the district makes the necessary findings in a public hearing.

Dairy Operation Emission Inventory

Ammonia (NH₃) Emissions

The nitrogen in animal manure can be converted to ammonia by a combination of mineralization, hydrolysis, and volatilization processes. Once created, the ammonia is converted to ammonium nitrate and ammonium aerosols by reactions with acidic species (nitric acid, sulfuric acid and ammonium bisulfate). As a result, these ammonia emissions contribute directly to the formation of PM₁₀ and PM_{2.5} which affects atmospheric visibility.

The 2003 AQMP established a “carrying” capacity for ammonia emissions, particularly from dairies. This “carrying” capacity was established based on air quality modeling and consists of the PM₁₀ emission reductions necessary to demonstrate attainment of the PM₁₀ standards. Dairy operations were included in the area sources category for ammonia emissions inventories in the 2003 AQMP. The AQMP control measure WST-01 1997 baseline inventory was 21.2 tons per day of ammonia emissions. The ammonia emission inventory in the 2003 AQMP is based on an emission factor for ammonia emissions is 51 pounds based on manure per adult cow per year⁵.

As part of their annual inventory of the cow population in the Basin, SARWQCB revised its estimate of the number of cows in 2002. Based on the revised cow population estimate, the AQMP emission inventory from this source category has been adjusted. Because the NH₃ emission factor is based on an adult cow, the data has been adjusted to reflect that heifers and calves, due to their age, do not produce as much manure as the adult cow. Table 1-1 provides the adjusted numbers and calculates the amount of NH₃ emissions from this source in both tons per year and tons per day.

⁵ Schmidt, C.E., Ph.D, Winegar, E., Ph.D. Final Technical Reports Results of the Measurements of PM₁₀ Precursor Compounds (PM₁₀PCs) From Dairy Livestock Waste, June 1996

TABLE 1-2**2002 Ammonia Emissions Inventory for the SCAB**

Cow Type	2002 SARWQCB Number of Cows	Manure Adjusted Number of Cows	Ammonia Emission Factor (lbs per year per cow)	Ammonia Emissions (tons per year)	Ammonia Emissions (tons per day)
Milking & Dry Cow	241,047	241,047	51	6,147	16.9
Heifers	75,582	27,652	51	705	1.9
Calves	77,320	11,315	51	289	0.8
TOTAL		280,014		7,140	19.6

Equation: Number of Cows x Emission Factor / 2000 pounds per ton = NH₃ tons per year

The 2002 ammonia inventory (19.6 tons per day) is less than the 1997 baseline inventory of 21.2 tons per day as presented in the 2003 AQMP. This decrease is the result of circumstances surrounding dairy operations which have affected the emissions from this area source; such an estimated annual 2% migration of some dairy livestock operations leaving the Chino-Ontario-Norco area and relocating to other areas within California (such as the San Joaquin Valley) or to areas outside California due to economic pressures to revisit existing land uses (e.g. agricultural, dairy) due to urbanization.

VOC Emissions

VOC emissions contribute to the formation of ozone, and transform into organic aerosols in the atmosphere, contributing to higher PM10 and lower atmospheric visibility. VOC emissions from dairy operations were also included in the area source category for VOC emissions inventories in the 2003 AQMP. The AQMP control measure WST-01 1997 baseline inventory was 12.1 tons per day of VOC emissions.

To establish the current VOC inventory from this source a VOC emission factor of 12.8 pounds per cow per year⁶ is used. Table 1-2 provides the 2002 SARWQCB number of cows and calculates the amount of VOC emissions from this source in both tons per year and tons per day. Since the VOC emission factor is not based on the lifecycle of the cow, the cow data did not need to be adjusted.

⁶ Ritzman, E.G., and Benedict, F.G., Nutritional Physiology of the Adult Ruminant. Carnegie Institute, Washington 1938

TABLE 1-3
2002 VOC Emissions Inventory for the SCAB

Cow Type	2002 SARWQCB Number of Cows	VOC Emission Factor (lbs per year per cow)	VOC Emissions (tons per year)	VOC Emissions (tons per day)
Milking & Dry Cow	241,047	12.8	1,543	4.2
Heifers	75,582	12.8	484	1.3
Calves	77,320	12.8	495	1.4
	393,949		2,522	6.9

Equation: Number of Cows x Emission Factor / 2000 pounds per ton = VOC tons per year

The 2002 inventory (6.9 tons per day) is less than the 1997 baseline inventory of 12.1 tons per day as presented in the 2003 AQMP. As mentioned previously, this decrease is the result of circumstances surrounding dairy operations which have assisted in reducing the VOC emissions originally estimated from dairy operations.

PROJECT OBJECTIVE

The objective of PR 1127 is to reduce ammonia and VOC emissions from livestock waste, specifically from dairies. Reducing these precursor contaminants would reduce ozone and PM10 emissions within the Basin. PR 1127 would implement control measure WST-01 "Emission Reductions from Livestock Waste" as presented in the 2003 AQMP. The objective of PR 1127 is not to duplicate the regulatory objectives of the SARWQCB to remove stockpiled manure from the dairies, but to go beyond the water quality regulations and require specific manure disposal options.

PROJECT DESCRIPTION

Although SARWQCB Order No. 99-11 requires manure to be removed from the CAFO, it does not contain any specific provisions regarding disposal methods or the final disposition of the manure. SCAQMD PR 1127 would go beyond Order 99-11 to remove manure by requiring specific in-Basin manure disposal methods as outlined in PR 1127: (1) process the manure at an anaerobic digester; or (2) transport the manure to a composting facility that complies with SCAQMD Rule 1133.2; or (3) transport the manure to a fabric in-vessel composting facility that meets performance standards. A summary of the requirements of PR 1127 is provided below. A copy of the proposed Rule 1127 is included in Appendix A.

Purpose and Applicability

The purpose of PR1127 is to reduce ammonia, VOC and PM10 emissions from livestock waste, consistent with the requirements of AQMP control measure WST-01 and California Senate Bill (SB)700. Applicable operations would include dairies, heifer, and calf farms

(unless exempt) within the SCAQMD’s jurisdiction. It also applies to manure processing operations, such as composting operations and anaerobic digester.

Definitions

This subdivision will include new definitions added for the following terms used in PR 1127:

- Alternative manure composting operation
- Anaerobic digester
- Dairy farm
- Engineered Waste Management Plan
- Existing dairy operation
- Greenwaste
- Manure processing operation
- ~~New dairy operation~~
- Operator

Requirements

The requirements of PR 1127 apply specifically to dairy farms and the disposal of manure. There are four primary requirements: Best Management Practices, Manure Disposal Requirements, Manure Processing Operation Approval Requirements and Reporting/Recordkeeping Requirements.

Best Management Practices (BMP)

BMPs are required by SB700 and are proposed to reduce direct emissions and increase the emission reduction effectiveness of certain manure processing requirements. The proposed BMPs would require all farms on or after December 1, 2004 to:

1. Implement at least one of the following manure harvesting protocols to minimize fugitive dust emissions:
 - a) Scrape or harrow in early morning (before 9 a.m.) only unless the moisture content of the manure is greater than 20% throughout the corral, as determined by an moisture meter~~when moisture is higher and winds are low~~; OR
 - b) Clear corrals ~~Set blade level of the manure harvesting equipment~~ such that an even surface of compacted manure remains on top of the soil (e.g., do not scrape down to soil level). Pulling, rather than pushing, blades are recommended; OR
 - c) Water Sprinkle-corral before manure removal ~~harvesting~~ to reduce dust through increased surface moisture (this measure is not required ~~recommended~~ for lactating cows).

2. Minimize water in corrals by
 - a) Identifying and eliminating water leaks from trough and trough piping; and
 - b) Achieving corral drainage standards in the Engineered Waste Management Plan.
3. Feedlanes must be paved at least eight feet on the corral side of the fence.
4. Effective January 1, 2005, clear corrals and any on-dairy stockpiles of any accumulated manure in excess of three inches in height at least four times per year, ~~with one time being between November 1 and December 31~~, and not less than 60 days between clearings.
5. Effective January 1, 2005, a dairy operator shall remove all on-dairy stockpiles within three months of the last corral clearing day.

Manure Disposal Requirements

On or after January 1, 2006, a dairy operator disposing of manure within the SCAQMD jurisdiction shall only remove or contract to remove manure from their dairy to:

- 1) approved agricultural land within the SCAQMD; or
- ~~2) a location outside the SCAQMD; or~~
- ~~3) 2) a manure processing operation.~~

~~After January 1, 2005, the operator of a new dairy farming operation with more than 100 cows shall:~~

- ~~1) remove all dairy manure (including from feedlanes, corrals and on-dairy stockpiles) at least weekly in compliance with the above manure disposal requirements)~~
- ~~2) all lagoons containing manure must be covered and vented gas controlled, and
 - ~~a) the cover must meet BACT requirements and capture at least 90 percent of gases emitted; and~~
 - ~~b) captured gas must be controlled using BACT technology~~~~

Manure Processing Approval Requirements

Manure processing requirements are designed to reduce ammonia and VOC emissions from unprocessed manure.

- 1) Approvable manure processing operations include:
 - a) an anaerobic digester; or
 - b) a Rule 1133.2-compliant composting facility; or

- c) an alternative manure composting facility as defined in the proposed rule. The alternative manure composting facility must meet performance standards and apply for approval with the SCAQMD.

Reporting and Recordkeeping Requirements

Reporting and recordkeeping requirements are necessary to ensure rule compliance, enhance enforceability and meet certain SB700 requirements.

- 1) No later than January 1, 2005, the operator of an existing dairy farm shall submit a PR1127 notification to the SCAQMD, including operator's name, farm location, and contact information.
- 2) No later than 30 days after operations begin at a new dairy farm or an existing farm under a new operator, the operator shall submit notification to the SCAQMD, including operator's name, farm location, and contact information.
- 3) After January 1, 2007, an annual report is to be submitted by an operator by the 15th of February of each year. The report shall include animal population and amount of annual manure removed to various destinations.
- 4) Records should be maintained at the dairy farm for three years, or five years if a Title V facility.

Test Methods

The moisture content of the manure shall be determined with an moisture meter. Moisture readings shall be taken by introducing the probe three inches into the manure. All readings shall be recorded. Moisture content samples shall be taken in such a manner as to be representative of the corral or stockpile, with a minimum of 5 readings per corral or stockpile.

Fees

Operators of farms or facilities subject to reporting and recordkeeping requirements shall be assessed applicable filing and evaluation fees pursuant to SCAQMD Rule 306.

Exemptions

- 1) Farms with less than 50 cow, heifers, and/or calves are exempt from this rule.
- 2) In-vessel composting operations are exempt from Rule 1133.2 requirements if they meet the minimum operating parameters for in-vessel composting.
- 3) An operator can be exempted from one of the corral cleanings if at 60 days after the previous corral clearing the moisture content of the corral manure is greater than 50 percent and, upon notification to the SCAQMD, the moisture content of the corral manure is tested at least weekly. If the moisture content remains greater than 50

percent after 90 days since the previous corral clearing, the operator can claim an exemption from one of the four required annual clearings.

4) Dairies that are removing all feedlane manure to a digester, no fewer than 6 days per week, are exempt from the corral clearing / stockpile removing requirements (paragraphs (d)(4) and (d)(5)).

Alternative Control Options

A person may comply with a plan for achieving equivalent emission reductions through alternative control measures. The plan must be approved by the SCAQMD, CARB and the USEPA before implementation and rule compliance.

COMPLIANCE OPTIONS

Because PR 1127 does not require dairy operations to process their manure, affected facilities may, aside from implementing the new BMPs, continue handling their manure as they currently do (temporarily stockpile, spread on land within the Basin and/or transport out of the Basin). PR 1127 establishes a requirement that the dairy operator dispose manure with approved agricultural land spreading within the SCAQMD, transport out of the SCAQMD or manure processing operation. If the dairy operators decide to process their manure within the SCAQMD, PR 1127 requires one of the following three compliance options: (1) transport the manure to an anaerobic digester; or (2) transport the manure to a composting facility that complies with SCAQMD Rule 1133.2; or (3) transport the manure to a fabric in-vessel composting facility that meets performance standards. The following subsections briefly describe these compliance options.

Anaerobic Digesters

The anaerobic digester compliance option is expected to be based on plug flow digester technology. The plug flow digester system is the technology currently used in the Basin (Chino, California) by the Inland Empire Utilities Agency (IEUA) specifically for cow manure treatment. In a typical plug-flow anaerobic digester, raw manure slurry enters one end of a tank and decomposes with the help of anaerobic bacteria as it moves through the tank. New material added to the tank pushes older material to the opposite end. The coarse solids in ruminant manure form a viscous material as they are digested, limiting solids separation in the digester tank. As a result, the material flows through the tank in a “plug.” Anaerobic digestion of the manure slurry releases gas as the material flows through the digester. This gas is captured and used to generate electricity.

In response to water quality regulations and the energy crisis, anaerobic digester technology was evaluated and found to be a viable option for use in the Basin. The IEUA, the Milk Producers Council, and Synagro, built an anaerobic digester pilot project (known as RP-5) in Chino, California. The digester processes approximately 50 tons of manure daily, and produces useable biogas to generate electricity. The remaining digested solids provide finished or near-finished compost. The digester essentially eliminates VOC emissions from the manure as anaerobic bacteria convert organic matter to biogas. Also, digesters require the freshest possible manure. The RP-5 digester accepts manure that is scraped from dairy

feed lanes daily. The limited capacity at RP-5 is estimated to be 15,650 tons of manure annually (based on 50 tons of manure per day multiplied by six days of operation per week).

Composting Facilities

Composting is the biological decomposition and stabilization of organic materials, and is an environmentally acceptable process for handling all of the compostable materials that can not be recycled from waste streams. Aerobic composting is the decomposition of organic materials in the presence of oxygen, producing byproducts made up primarily of carbon dioxide, water and heat. (Note: anaerobic composting is the decomposition of organic materials in the absence of oxygen, primarily producing methane, carbon dioxide and other byproducts). Composting turns a waste material into a useful product that can add nutrients, maintain soil pH, increase water retention and reduce water runoff. Composting diverts waste material from landfills, reduces greenhouse gas production at landfills/open waste sites and decreases the need for commercial petroleum-based fertilizers.

One of the compliance options in PR 1127 is for the dairy operators to transport manure to a composting facility (also referred to as co-composting facility) that complies with Rule 1133.2. Rule 1133.2 requires new composting facilities to enclose the active portion of their operations, use aeration in the curing phase of the operation, and vent the exhaust from the enclosure and aeration system to emissions control equipment with a control efficiency equal to or greater than 80 percent, by weight, for both VOC and ammonia emissions.

Rule 1133.2 requires operators of existing composting facilities to submit a compliance plan demonstrating an overall emission reduction of 70 percent, by weight, for both VOC and ammonia emissions, from baseline emission factors (1.78 pounds of VOC per ton of throughput and 2.93 pounds of ammonia per ton of throughput).

The effective compliance date for new composting facilities was January 2003. The compliance dates for existing composting facilities range between 2007 and 2009 depending on the size of their operations. Dairy operators began using composting operations as a disposal option for dairy manure in 1995 in response to land spreading restrictions and water quality regulations. While these facilities currently process over 200,000 tons of material per year, the capacity to accept and process additional manure is limited.

Alternative Manure Composting Operations

With the upcoming closure of existing co-composting facilities, there has been an increased interest in enclosed aerated static pile technology, such as fabric in-vessel (FIVs), for the organics. FIVs use the aerobic composting process as co-composting facilities to decompose organic materials. However, the FIV aerated method of composting manure would take place in an elongated plastic container or bag (see Figure 1-4), typically 10 feet in diameter and 200 feet long, which would act as a containment cell with forced aeration.



FIGURE 1-4

Fabric In-Vessel (Composting Bag)

The typical process would involve the collection of the manure before it is placed into a hopper where the manure is mixed, ground, and possibly adjusted for the proper carbon nitrogen ratio. Hoppers are designed for forklift handling, can be dumped safely from any height and are precisely balanced to tip forward for complete discharge of contents and return to an upright position. Attached to the hopper is a hydraulic ram which is used to push the manure material through the filling chamber and compact into the plastic container or bag (see Figure 1-5). Compaction is essential to maintain porosity. Pushing the hydraulic ram forward and leaving it extended against the material will effectively leave the product sealed for aeration purposes. Retracting the ram leaves the hopper ready for another load.



FIGURE 1-5

Hopper Filling the Fabric In-Vessel

After the manure is packed into the container and sealed, the aeration pipe is attached to a timer controlled electric air blower that maintains aerobic conditions. Optimum temperature and moisture conditions are maintained by managing the blower operating time and the venting water vapor during the composting process. Each containment vessel holds approximately 200 tons of manure. It typically takes 10-14 weeks for the manure to compost.

CHAPTER 2

ENVIRONMENTAL CHECKLIST

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potentially significant adverse environmental impacts. This checklist identifies and discusses the potential environmental impacts that may be created by the implementation of PR 1127.

GENERAL INFORMATION

Project Title:	Proposed Rule 1127 - Emission Reductions Livestock Waste
Lead Agency:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765-4182 www.aqmd.gov
CEQA Contact Person:	Michael Krause (909) 396-2706 mkrause@aqmd.gov
Rule Contact Person(s):	Julia C. Lester (909) 396-3162 jlester@aqmd.gov Mary R. Woods (909) 396-3094 mwoods@aqmd.gov
Project Sponsor:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765-4182 www.aqmd.gov
General Plan Designation:	Not applicable
Zoning:	Not applicable
Project Description:	PR 1127 requires operators of dairy farms to implement best management practices, including clearing corral and any stockpiles four times per year. Additionally, PR 1127 requires operators to remove manure to: (1) approved agricultural land within the SCAQMD; or (2) a location outside the SCAQMD; or (3) a manure processing operation. If processing manure, the only approvable operations allowed are: (1) an anaerobic digester; or (2) a Rule 1133.2-compliant composting facility; or (3) an alternative manure composting facility as defined in the proposed rule.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been evaluated to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a “✓” 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.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation./Traffic |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings |

DETERMINATION

On the basis of this initial evaluation:

- I find that the proposed project, in accordance with findings made pursuant to CEQA Guidelines (California Code of Regulations, Title 14 §15252), COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been 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 mitigation measures have been incorporated into the project. An ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that the project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared to present a further evaluation of potential significant adverse environmental impacts.

Date: March 30, 2004

Signature: _____

Steve Smith

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

GENERAL EFFECTS OF THE PROPOSED PROJECT

Effects from Best Management Practices

PR 1127 requires operators of dairy farms to implement best management practices, including clearing corral and any stockpiles four times per year. This practice requires two additional clearing of the corrals per year beyond the two clearings currently required by the water regulations. No potential environmental impacts are anticipated as a result of having to clear the corrals two additional times per year. Table 2-1 lists the anticipated manure disposal practice by year 2006 and the anticipated future action as a result of the two additional clearings of the corral. Since the annual amount of manure is not expected to change, the number of trucks to haul the manure out of the dairy does not change. By continuing the current manure disposal practice, the haul trucks are expected to travel the same distance. If switching disposal method to an alternative manure process (such as a composting facility), the haul trucks are expected to travel the same or similar distance since the composting sites are expected to be local.

TABLE 2-1

Anticipated Manure Disposal Practices in 2006

2006 Manure Disposal Practice	Estimated Amount of Manure (tons per year)	Anticipated Future Action as a Result of Two Additional Clearings
Digester	27,375	Because of the benefits from using the digester, manure is expected to continue to be digested. Dairies are typically on leased land, so it is unlikely they would accept the burden of the high capital cost to install their own digester on site. Hauling the manure to established digesters will cost the dairies more than other compliance options (approximately \$20/ton) because the digester owners need to recoup the capital costs. Thus, new amounts of manure are not expected to be processed through an anaerobic digester.
Land Spreading Application	715,498	Because of the low cost (approximately \$7.50/ton), the land spreading application is still a viable option. Because the annual amount of manure is not expected to change, the total amount should still be able to be land spread.
Alternative Manure Processing Composting (i.e. FIV composting)	226,415	The manure currently composted at the windrow facility is expected to be processed through an alternative manure composting process when the windrow facility closes. The amount of manure is not expected to change so the increased number of corral clearing will not change the capacity needs from composting.
Enclosed Composting	7,500	Because of the equitable costs and advantages to composting, the same amount manure is expected to continue to be composted within an enclosure.

TABLE 2-1 (CONCLUDED)
 Anticipated Manure Disposal Practices in 2006

2006 Manure Disposal Practice	Estimated Amount of Manure (tons per year)	Anticipated Future Action as a Result of Two Additional Clearings
Sent out of the Basin	255,889	Manure sent out of the Basin is expected to continue to be shipped out of the Basin, unless there is a limit to the land spreading, then the manure could be processed locally. This would reduce the distance of the haul trucks. However, for a “worst case” analysis based on longer trips and higher emissions, the manure is expected to continue to be sent out of the Basin, which is the current practice.
Unknown	4,930	Whatever the disposal process, there is no indication that the method would change.
TOTAL Annual Manure in 2006 (tons per year)	1,232,677	

From Manure Disposal Requirements

PR 1127 requires operators to remove manure to: (1) approved agricultural land within the SCAQMD; or (2) a location outside the SCAQMD; or (3) a manure processing operation. If processing manure, the only approvable operations allowed are: (1) an anaerobic digester; or (2) a Rule 1133.2-compliant composting facility; or (3) an alternative manure composting facility as defined in the proposed rule. Because the water quality regulations do not allow manure to be stockpiled at remote locations, the manure is currently being land spread, shipped out-of-the-basin to be land spread elsewhere, or sent to a digester or a composting facility. These practices are not expected to change as a result of the proposed project. PR1127 would exempt alternative manure composting operations from the requirements of Rule 1133.2 and thus, allow the use of alternative manure composting operations which may not have been an option without PR 1127. Other than the alternative manure composting operations, the other disposal methods would create no new adverse environmental impacts because there will be no change to the baseline conditions, or what is currently allowed without PR 1127. The following “worst-case” environmental analysis will focus on the impacts from the installation and operation of the alternative manure composting which might not have be allowed without the exemption from Rule 1133.2 in PR 1127. In addition, if a dairy operation decides to change the process used to dispose the manure, it will not be as a result of PR 1127 because a dairy operation is not required to dispose the manure in a manner different than current practices. Because the manure would have to be disposed of regardless of the PR1127, potential environmental impacts from switching disposal methods would occur regardless of PR 1127.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will 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

I. a)-d) The proposed project does not require the construction of any buildings or facilities which would create a new source of light or glare, damage scenic resources, or have a substantial adverse effect on scenic vistas or the existing visual character of the site and its surroundings. The BMP requirement to remove manure generally stockpiled onsite for extended periods of time will actually improve the visual character of the site and its surroundings. However, new FIV composting facilities, which involves enclosing the manure in bags on a concrete pad (see Figure 1-4), might result from implementation of PR 1127. These facilities are expected to be local, either nearby existing dairies or located on existing large dairy farms. This would not change the existing aesthetics of this region. Further, the proposed project does not require any activities to be performed during evening hours, requiring any new source of light.

Based on the above considerations, significant adverse impacts to aesthetic resources are not expected from implementation of PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agricultural resources will 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

II. a) - c) The livestock operations subject to PR 1127 are primarily located in San Bernardino and Riverside counties. The San Bernardino General Plan has designated a large portion of land as agricultural. In addition, many of the dairies are subject to Williamson Act contracts administered by the County of San Bernardino. The Williamson Act was designed to allow owners of qualified land to contract with the applicable jurisdiction to continue agricultural uses for a period of ten years. The contract is automatically renewed each year unless a notice of non-renewal is filed. In return, the jurisdiction agrees to assess the property at its agricultural value rather than its market value. PR 1127 will not conflict with existing zoning for agricultural use, or a Williamson Act contract. Furthermore, the proposed rule will not require the conversion of any farmland to a non-agricultural use because PR 1127 does not require the construction of buildings on land that would otherwise be used for agriculture.

Independent of implementing PR 1127, the City of Chino (within the county of San Bernardino), is currently pursuing steps to develop a Master Plan/General Plan amendment with a companion level Specific Plan to develop land currently designated as agricultural over the next 20 years. This area is known as the "Preserve" (aka the Chino Sphere of Influence Subarea 2), and is located in the extreme southwestern corner of San Bernardino County, approximately 37 miles east of Los Angeles and 20 miles southwest of San Bernardino. The Preserve is located in the vicinity of the cities of Chino, Chino Hills, Ontario, Norco, and Corona, as well as the unincorporated community of Eastvale in Riverside County, and the Prado Flood Control Basin. The Preserve planning area of 5,435 acres is currently within the Chino Valley Dairy Preserve. The Preserve Master Plan and related actions are intended to facilitate the orderly transition of existing dairylands within the City of Chino sphere of influence to a sustainable land use pattern and mixed use planned development. (The Preserve, Chino Sphere of Influence - Subarea 2 Draft EIR, SCH #2000121036, September 2001)

The proposed project is not expected to involve changes in the existing environment which, due to their location or nature, could result in the conversion of farmland, to non-agricultural use. The dairy industry in the Basin appears to be slowly declining due in part to land use pressures from expanding urbanization. This change from agricultural to urban land use is unrelated to PR 1127 and is expected to be unaffected by PR 1127.

Based on the above considerations, significant adverse impacts to agriculture resources are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | |
|--|--------------------------|--------------------------|-------------------------------------|
| b) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

TABLE 2-2
Air Quality Significance Thresholds

Mass Daily Thresholds		
<i>Pollutant</i>	<i>Construction</i>	<i>Operation</i>
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
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment) Hazard Index \geq 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	

TABLE 2-2 (CONCLUDED)
Air Quality Significance Thresholds

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 construction	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, 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; AHM = Acutely Hazardous Material. NO₂ = Nitrogen Oxide, CO = Carbon Monoxide, VOC = Volatile Organic Compounds, SO_x = Sulfur Oxide.

Discussion

III. a) PR 1127 is being implemented to reduce NH₃ and VOC emissions from dairy livestock waste pursuant to AQMP control measure WST-01. The 1997 AQMP established a goal to reduce dairy livestock emissions by 50 percent for NH₃ and 30 percent for VOCs. The reductions are expected to be achieved through a combination of factors: compliance with water quality regulations requirements such as land application and/or transport out of the Basin; compliance with PR 1127 requirements such as processing the manure in a digester, Rule 1133.2-compliant composting facility or an alternative manure composting operation; and the trend for dairies to continue relocating out of the Basin. Table 2-3 provides a summary of the estimated emission reductions to NH₃ and VOC by compliance year 2006.

PM10 emission reductions are anticipated to be ten percent of the PM10 baseline inventory. The baseline inventory is calculated by multiplying the total number of cows (393,949) and the PM10 emission factor (1.78 pounds per cow per year). Thus, the PM10 emission reduction from PR1127 is estimated to be 0.1 ton per day. Equation: 393,949 cows per year x 1.78 pounds per cow per year / 2000 pounds per ton / 365 days per year x 10 percent = 0.1 ton per day.

TABLE 2-3
Estimated Emission Reductions from PR 1127 in 2006

	NH₃	VOC
2002 Baseline Inventory from Tables 1-1 and 1-2 (tons per day)	19.6	6.9
Future Baseline (Uncontrolled) Inventory at 2006 (tons per day) ^(a)	18.0	6.35
TOTAL REDUCTIONS FROM PR 1127	3.36	1.19
Projected Emission Reductions from BMPs (two additional annual corral manure removal) and the Manure Processing Requirements (tons per day)		
Emission Reductions from Water Quality Regulations ^(b) (tons per day)	3.89	1.37
TOTAL REDUCTIONS FROM PR 1127 and WATER REGS^(b)	7.25	2.56

(a) This accounts for the estimated annual two percent migration of some dairy livestock operations leaving the Chino-Ontario-Norco area and relocating to other areas within California (such as the San Joaquin Valley) or to areas outside California due to urbanization and economic pressures. Equation: $19.6 - (19.6 \times 2\% \times 4 \text{ yrs}) = 18 \text{ tons/day}$

(b) Consists of existing manure handling practices as well as water quality regulations (manure removal every 180 days)

The 1997 AQMP baseline inventory is the baseline used to determine the percent reduction goals for NH₃ and VOC in the 1997 and 2003 AQMPs. As shown in Table 2-3, this is not the baseline used for the environmental analysis. The baseline inventory does change over time due to emission decreases from existing water quality regulations (including stockpile removal), manure handling practices, and migration of the dairy operations out of the Basin.

Accordingly, the proposed project is expected to significantly contribute to the overall improvement of air quality in the region by reducing PM₁₀, NH₃ and VOC emissions by the year 2006 from affected facilities. Therefore, the proposed project contributes to implementing the AQMP and will assist the Basin in attaining and maintaining the state and national ambient air quality standards for ozone and PM₁₀. As a result, the proposed project will not conflict or obstruct implementation of the applicable AQMP.

III. b) The objective of PR 1127 is to reduce PM₁₀, NH₃ and VOC emissions from dairy livestock operations.

Construction Impacts

While the proposed project is expected to improve overall air quality in the Basin, the implementation of PR 1127 could create indirect air quality impacts from the construction of additional asphalt concrete pads needed to place the FIVs upon if a dairy operator chooses to process the manure through the enclosed composting bag process. Because the use of an alternative manure composting operation (such as an FIV facility) might not be allowed without PR 1127, the anticipated construction of new FIV facilities could be the result of the proposed rule.

Table 2-4 provides the construction emissions from the installation of one large asphalt concrete pad to accommodate approximately 20 composting bags. Each bag can compost up to 200 tons of manure in 10-14 weeks. Therefore, three to five composting cycles can occur in one bag location

per year. Using an average of four cycles per year, 800 tons of manure can be composted per year in one bag location (or 16,000 tons per year on one asphalt concrete pad). As explained in the “General Effects” section, the “worst case” construction scenario is the anticipated total annual manure sent to and composted at an alternative manure composting (226,415 tons per year) would require approximately 14 FIV composting facilities (226,415 tons per year/16,000 tons per year/pad = 14 pads) by 2006. It is unlikely that these FIV composting facilities will be constructed on the same day because of capital financing, land acquisition, construction crew and construction equipment availability. However, the air quality evaluation does a “worst case” analysis which is if all 14 pads were constructed on the same day. Construction, with regards to this project, occurs in four phases including grading and paving the asphalt concrete pad needed for the FIV facility. Grading the site generates the highest daily construction emissions so only emissions from this construction phase are listed in Table 2-4. Based on the daily construction emissions, the air quality impacts are not significant. See Appendix B for the detailed assumptions and calculations.

TABLE 2-4

Potential Peak Daily Construction Emissions from Installing Asphalt Concrete Pads for FIVs

	CO	VOC	NOx	SOx	PM10
“Worst Case” Peak Phase Daily Construction Emissions from installing one asphalt concrete pad (pounds per day)	3.5	0.54	4.8	0.47	7.9
Total Daily Construction Emissions from installing 14 asphalt concrete pads on the same day (“worst case” scenario) (pounds per day)	49	7.6	67.2	6.6	111
SCAQMD Construction Significance Threshold (pounds per day)	550	75	100	150	150
Significant?	No	No	No	No	No

Operational Impacts

PR 1127 will not require dairies to change their manure disposal methods but rather require a type of disposal if processing the manure. The primary new operational emissions will be from the operation of the FIV facility necessary to handle the total manure currently processed at a windrow composting facility expected to close in the near future. Because the use of an alternative manure composting operation (such as an FIV facility) might not be allowed without PR 1127, the anticipated operation of 14 FIV facilities could be the result of the proposed rule. The distance traveled by the haul trucks will either be the same, similar or, in some cases, shortened. The latter would result if manure that was transported out of the basin is now processed locally, then the haul truck trip distance would be shortened. Similarly, the emissions from the truck trips to transport the manure will be less than the emissions from the truck trips taken to transport the manure out of the Basin.

Table 2-5 summarizes the daily operational impacts from one FIV composting facility, as well as all 14 FIV facilities, excluding the emissions from the haul truck bringing the manure to the site.

TABLE 2-5
Potential Daily Operational Emissions at FIV Composting Facility

	CO	VOC	NOx	SOx	PM10
“Worse Case” Operational Emissions at FIV composting facility (pounds per day)	3.6	2.5	2.9	0.10	0.19
Total Daily Operational Emissions at 14 FIV composting facilities (“worst case” scenario) (pounds per day)	50.4	35	40.6	1.4	2.7
SCAQMD Operational Significance Threshold (pounds per day)	550	55	55	150	150
Significant?	No	No	No	No	No

If composting in FIV, the enclosed bag will prevent the manure from getting wet due to rainfall, morning dew, etc., and, therefore, will assist in completing the composting process in a timely manner. Because the manure will not be exposed to blowing winds, there will be no particulate matter dispersion when the surface dries.

III. c) As already noted, no significant adverse construction air quality impacts are generated from installing 14 asphalt concrete pads at FIV composting facilities. Since PR 1127 is not expected to generate significant adverse project-specific construction or operational air quality impacts, it is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project (CEQA Guidelines §15130(a)). The proposed project’s contribution to a potentially significant cumulative impact is rendered less than cumulatively considerable and, thus, is not significant (CEQA Guidelines §15064(i)(2)).

III. d) As previously mentioned, the annual amount of manure is not expected to change so the number of trucks to haul the manure out of the dairy does not change. By continuing the current manure disposal practice, the haul trucks are expected to travel the same distance. If switching disposal method to an alternative manure process (such as a composting facility), the haul trucks are expected to travel the same or similar distance since the composting sites are expected to be local. Since the project will not affect the level of service at any one intersection, the CO hotspots would not be expected as a result of implementing PR 1127 so no impacts to sensitive receptors are expected.

III. e) The proposed project itself is not expected to create significant objectionable odors. Because of the odor associated with NH₃, the requirement to remove manure from dairy operations will reduce significant objectionable odors at affected dairies, as well as improve overall air quality in the Basin. If a dairy chooses to process the manure at a FIV composting facility, the enclosed sealed vessel will prevent the dispersion of odors and, since the aeration is done regularly, aerobic activity is maintained throughout the composting cycle.

III. f) Adopting and implementing PR 1127 establishes an air pollution control rule that is expected to assist the SCAQMD in its efforts to attain and maintain state and national ambient air quality standards for PM10 and ozone. Thus, PR 1127 is not expected to diminish an existing air quality rule or future compliance requirements.

Based on the above consideration, significant adverse impacts to air quality are not expected from adopting and implementing PR 1127. Since there are no significant adverse impacts, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

regional, or state habitat conservation plan?

Significance Criteria

Impacts on biological resources will 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

IV. a) - d) The proposed project affects existing dairy livestock operations, and requires no physical alterations to these existing facilities. If facilities choose to process their manure using an enclosed FIV, the manure would be transported to a FIV composting facility. These composting facilities, as well as livestock operations (dairies), are not typically a habitat for biological (wildlife or vegetation) resources. Dairies are usually open, flat areas with dirt corrals where manure is allowed to remain in place until removal (either to an offsite location or to be stockpiled somewhere else onsite). Composting facilities, some anticipated to be located at existing, land-disturbed dairies, tend to be flat dry spaces exposed to the sunlight to assist in the composting process. PR 1127 will not have an effect on candidate, sensitive or special status species; riparian habitat; or federally protected wetlands, as they too are not expected to be present at these facilities. Further, affected existing dairy livestock operations and composting operations are not generally located in, or near, an area which sustains the movement of any fish or wildlife species.

IV. e) & f) PR 1127 is not envisioned to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans. PR 1127 is intended to reduce PM10, NH₃ and VOC emissions at affected existing dairies located in greatly disturbed areas. In general, dairies do not support biological resources, but rather sustain a strict agricultural setting of open, flat, dirt corrals and feedlots. The same is true for composting facilities. Neither native nor non-native vegetation is usually present at dairy livestock operations or composting facilities. Further, the proposed project will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, because all activities associated with complying with PR 1127 will occur at existing dairy livestock facilities, which as discussed above, are absent habitat.

Based on the above consideration, significant adverse impacts to biological resources are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

Impacts to cultural resources will 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

V. a) - d) The proposed project affects existing dairy livestock operations located in areas which have already been greatly disturbed (see “Biological Resources”). These areas have not been disturbed so much by urbanization, but by the constant daily routines associated with operating a dairy. These areas are typically open, flat, dirt corrals and open feedlots. At specific times, the corrals are scraped and the manure is transported offsite or is moved into a stockpile in some other area of the property.

There are existing laws and regulations in place designed to protect and mitigate potential impacts to cultural resources. PR 1127 does not include any requirements to construct buildings or facilities at new locations. However, if operators of affected dairies choose to process their manure through FIV

composting, new asphalt concrete pads upon which the FIV is placed would need to be constructed. Since it is anticipated that the FIV composting operations would be located at existing large dairy farms or other previously disturbed land, no significant new land will be disturbed which might create an opportunity to disturb any subsurface unique cultural resources or human remains. Therefore, the proposed project is not expected to impact historical, archaeological, or paleontological resources.

Based on the above consideration, significant adverse impacts to cultural resources are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

Impacts to energy and mineral resources will 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

VI. a) & e) The proposed project does not require any action which would result in any conflict with an adopted energy conservation plan or violation of any energy conservation standard. In general, PR 1127 reduces PM10, NH₃ and VOC emissions from livestock waste at dairies and does not require the construction of any building, structure or facility, or the installation of any equipment which would require the additional electrical power or natural gas resources from any local utility systems.

VI. b), c) & d) The Warren-Alquist State Energy Resources Conservation and Development Act, California Public Resources Code §25001 states that electrical energy is essential to the health, safety and welfare of the people of California and to the state economy, and that it is the responsibility of the state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of the general welfare, and for environmental quality protection.

The proposed project will affect existing dairy livestock operations, in that facilities will be required to remove and dispose of accumulated manure. The FIV composting facility does involve the use of a blower system. According to a manufacturer of an FIV system, 110 volts at 20 amps (110 volts x 20 amps = 2200 watts or 2.2 kilowatts) are needed to power the blower system. Assuming 14 pads are constructed as a result of PR1127, the total energy impact is only 31 kilowatts which negligible (<<1 percent) compared to the 65,000 megawatts (65 million kilowatts) peak electricity demand in 2010 (estimated by the California Energy Commission in 2003 according to the Final PEIR for 2003 AQMP, SCAQMD, August 2003). Therefore, the proposed project will have no effect on local or regional energy supplies, or have an effect on energy demands or standards. As a result, PR 1127 is not expected to peak or base periods of electricity or other forms of power.

Natural gas is a fossil fuel widely used by stationary sources in the district. It is consumed by end-users in the residential, commercial and industrial sectors. Natural gas supply projections state that supplies will be available for the district well into the year 2010 (Final PEIR to 2003 AQMP, SCAQMD, 2003). PR 1127 is not expected to increase demand for natural gas, so the proposed project will not affect future supplies of natural gas.

Based on the above considerations, significant adverse impacts to energy are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Topographic alterations would result in significant changes, disruptions, displacement, excavation, 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

VII. a) Southern California is an area of known seismic activity. The proposed project is expected to affect existing dairy livestock facilities that have been conducting dairy operations within southern California for several years. The proposed project does not require the construction of any buildings or facilities which would be subject to seismic activity. A concrete pad upon which an FIV is placed is the most construction that could take place if the FIV composting does not take place at an existing site. The asphalt concrete pad is not a structure that would expose people to potential substantial adverse risks associated with earthquakes, ground shaking, liquefaction or landslides than would already occur at the existing facilities.

VII. b) Existing dairy livestock operations are located in open, flat areas which include dirt corrals and open feedlots. The components of PR 1127 will not change these existing practices, other than to require the removal and disposal of manure more often than is currently required by the SARWQCB. During the process of cleaning/scraping the corrals, a small portion of topsoil is removed and mixed with the manure. The amount of topsoil removed is minimal and will not be increased with the implementation of PR 1127. The paving of a concrete pad would not require any substantial loss of topsoil or cause soil erosion because laying the asphalt concrete pad will require complying with Rule 403 which will serve to reduce any wind erosion of the disturbed site.

VII. c) & d) The proposed project is expected to affect existing livestock operations and does not require the construction of any new buildings or facilities which might be located on, or subject to, unstable soils, landslides, subsidence, liquefaction or expansive soils. These existing facilities have already been located and constructed in accordance with local land use plans and zoning ordinances, and any structures erected onsite have been constructed on stable soils in accordance with the relevant Uniform Building Code (UBC) requirements in effect at the time of construction.

VII. e) Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. The proposed rule does not contain any requirements that generate construction of residential projects in remote areas. Further, the proposed project affects existing dairy livestock operations and does not include any requirements for alternative wastewater disposal systems or septic tanks, or include any activities which would require alternative wastewater disposal systems or septic tanks. As a result, the use of septic tanks or other alternative wastewater disposal systems is not expected as a result of implementing PR 1127.

Based on the above considerations, significant adverse impacts to geology and soils are not expected from adopting and implementing PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|----|---|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts associated with hazards will 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

VIII. a) - c) The proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, due to the fact that the proposed rule does not require the transport, use, and disposal of hazardous materials. The reason for this conclusion is that livestock facilities do not use hazardous materials or produce hazardous waste in their daily operations. Further, based on the fact that the proposed rule does not require the transport, use and disposal of hazardous materials, PR 1127 will not create a significant hazard to the public or environment through a reasonably foreseeable release of these materials into the environment.

Based on the above facts, there is little likelihood that affected livestock operations will emit hazardous emissions or involve handling hazardous materials, substances or waste within one-quarter mile of an existing or proposed school as a result of implementing the proposed rules. Livestock operations are not typically located within residential communities which would include a school. Further, PR 1127 is intended to reduce overall PM10, VOC and NH₃ emissions in the Basin. It is expected that the proposed rule would improve air quality, visibility and reduce odors surrounding existing facilities and, therefore, improve air quality, visibility and reduce odors surrounding any existing or proposed schools within one-quarter mile of affected livestock operations.

VIII. d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Livestock operations affected by PR 1127 are not expected to be on this list because they typically do not handle hazardous materials or generate large quantities of hazardous waste. Consequently, PR 1127 is not expected to have any effects on affected facilities to comply with hazardous waste regulations and, therefore, will not create significant hazards to the public or environment.

VIII. e) & f) The proposed project affects existing livestock operations (e.g. dairies). Since the proposed project simply requires removal and disposal of livestock wastes, it would not create any safety hazards, such as tall structures, that would affect people residing or working near private airports, or in an area designated as an airport land use.

VIII. g) The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. PR 1127 affects existing dairy livestock operations (e.g. dairies). Since existing livestock operations do not handle, transport, use or dispose of hazardous materials, it is unlikely that they would be required to prepare a site-specific emergency response/evacuation plan, or affect local emergency response plans in any way. Even if dairies were subject to emergency preparedness requirements, the proposed project would not hinder emergency responses in any way.

VIII. h) & i) The proposed project does not require any activities which would be in conflict with fire prevention and safety requirements and thus would not create or increase fire hazards at existing livestock operations. Since the proposed project will affect existing facilities, there are no new risks associated with wildland fires. Further, complying with the proposed project does not involve or increase the use of any substances that could contribute to wildland fires. Facilities affected by the proposed rule do not typically include the routine use of flammable materials in their daily operations. Any tanks possibly located on-site would be built in accordance with building codes and fire code standards to minimize risks. As a result, PR 1127 is not expected to create an increase in fire hazards at livestock operations.

Based on the above considerations, significant adverse impacts to hazards and hazardous materials impacts are not expected from PR 1127. Since there are no significant adverse impacts, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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)?

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| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) | Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k) | Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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|---|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Potential impacts on water resources will 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 will 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

IX. a) & f) Most of the livestock operations subject to PR 1127 are located in San Bernardino and Riverside counties and fall under the jurisdiction of the SARWQCB relative to water quality, waste discharge and groundwater protection issues. In response to potential groundwater quality concerns, the SARWQCB has established general waste discharge requirements for dairies, which are also referred to as CAFOs. These general waste discharge requirements (Order No. 99-11) are consistent with the federal Clean Water Act, the California Porter-Cologne Act, and other applicable regulations.

The SARWQCB requires a variety of actions by dairies and manure managers, such as: permits; site plans and designs; engineered waste management plans; water, wastewater and manure control facilities; best operational practices; monitoring programs; and information reporting. In addition to these local requirements, the U.S. Department of Agriculture (USDA) and the U.S. EPA developed a unified national strategy for animal feeding operations which includes a guiding principle to minimize water quality and public health impacts from animal feeding operations.

The EPA is currently developing new regulations applicable to CAFOs and is expected to take final action on these regulations by December 15, 2002. EPA proposes to revise and update two existing regulations that address the impacts of manure, wastewater, and other process waters generated by concentrated animal feeding operations on water quality. These two regulations are the NPDES provisions that: 1) define which operations are CAFOs; and 2) establish effluent discharge standards. EPA is proposing revisions to these regulations to address changes that have occurred in the animal industry sectors over the last 25 years to clarify and improve implementation of CAFO permit requirements and to improve environmental protection achieved under these rules.

As discussed above, the livestock operations in the Basin must comply with a variety of regulations regarding water quality and waste discharge. These regulations are intended to protect the quality of water which could potentially enter the groundwater and stormwater drainage systems. PR 1127 will not affect current water, wastewater and waste discharge regulations which are applicable to livestock operations. In fact, PR 1127 has been developed to be consistent with the requirements of the SARWQCB and other applicable agencies. The proposed project will not violate any water quality standards, waste discharge requirements, or otherwise substantially degrade water quality. By requiring manure to be removed from the ground two times more than required by water quality regulations, PR 1127 would aid the SARWQCB's efforts to improve ground water quality in the Riverside and San Bernardino county areas where the dairies are primarily located.

IX. b) & e) PR 1127 does not include any requirements which would increase current existing water usage or deplete groundwater supplies by lowering the local groundwater table levels. No components of the proposed rule will require an increase in current existing water usage which

would contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Further, PR 1127 will not require any action which would impact existing wastewater processes onsite, or exceed wastewater treatment requirements.

IX. c) & d) The proposed rule will not adversely affect the current site drainage patterns or alter the course of a stream or river in a manner that would result in substantial erosion, siltation, or flooding on or offsite. PR 1127 is intended to reduce PM10, NH₃ and VOC emissions from livestock waste by requiring removal and disposal of dairy livestock waste beyond what is currently required by SARWQCB. In addition, existing livestock operations must comply with very strict regulations regarding water quality, waste discharge and stormwater runoff. PR 1127 will not be in conflict with any existing regulations regarding water quality, waste discharge or stormwater runoff.

IX. g), h), i) & j) PR 1127 regulates VOC and NH₃ emissions at existing dairy livestock operations by requiring removal and disposal of dairy livestock waste beyond what is currently required by SARWQCB. As a result, the proposed project does not require the construction of any structure, building or facility which would place people or structures within a 100-year flood hazard area, or expose them to a significant risk involving flooding, or be subject to inundation by seiche, tsunami, or mudflow.

IX. k), l), m) & n) The proposed project will not require the construction of any structure, building or facility which would generate wastewater or require the construction of new (or expansion of existing) stormwater drainage facilities. Further, PR 1127 will not require an increase in existing water supplies available to serve existing livestock operations. See also response to item IX. a) & f).

IX. o) Livestock operations subject to PR 1127 are not water intensive activities that would produce wastewater. Further, no provisions of PR 1127 require actions which would increase wastewater production at affected facilities.

Based on the above considerations, significant adverse impacts to hydrology and water quality are not expected from PR 1127. Since there are no significant adverse impacts, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

X. a) - c) PR 1127 would only affect livestock waste management practices at existing dairies. Therefore, the proposed project will not divide an established community. No components of the PR 1127 require the construction of any new buildings or facilities which could potentially divide an established community. It is anticipated that the FIV composting operations would be located at existing large dairy farms or other previously designated land. If dairy operators decide to process their manure through FIV composting, the composting bags are more space efficient than the existing windrows in co-composting facilities. In addition, some composting facilities are anticipated to be located at large, existing, land-disturbed dairies that have extra room to provide the space needed. Further, it is assumed that existing livestock operations currently comply with local zoning ordinance and general plan land use designations for the area in which they are operating. There are no provisions of the proposed project, which would require a change in the existing land use plans, policies or regulations.

Any operational modifications initiated to comply with the proposed project at existing facilities will not conflict with any applicable land use plan, policy or regulation; or conflict with any applicable habitat conservation or natural community conservation plan. These existing dairies are located within special agricultural areas consistent with current land use designations and zoning.

Based on the above considerations, significant adverse impacts to land use and planning are not expected from PR 1127. Since there are no significant adverse impacts, 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 will 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

XI. a) & b) PR 1127 affects livestock waste management practices at existing livestock operations and does not require the construction of any building or facility, or require any other physical action which would result in the loss of, or substantially increase the demand for, any mineral resource that would be of value to the region/state, or be delineated on a general, special or other land use plan. FIV facilities may be need to be built but that should have little or no effect on mineral resources or result in the loss of availability of a known mineral resource of value locally, regionally or statewide. These existing livestock operations are typically located in locations which have been previously disturbed.

Based on the above considerations, significant adverse impacts to mineral resources are not expected from PR 1127. Since there are no significant adverse impacts, 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Exposure of persons to or generation of | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts on noise will be considered significant if:

Construction noise levels exceed the 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

XII. a) - f) 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.

PR 1127 will not require the construction of any buildings or other facilities which could potentially increase ambient noise levels, or cause changes in the daily operational ambient noise levels. As a result of SARWQCB regulations, dairies are already removing livestock manure. New FIV composting facilities may generate new noise sources (i.e., haul trucks, fork lifts, hopper, etc.), but facilities are typically in relatively remote areas. Similarly, because of potential distances to any noise receptors and noise attenuation per doubling distance, noise impacts are not expected to be significant. Continuing or expanding waste management practices would not introduce new sources of noise or vibration. Therefore, the implementation of PR 1127 will not increase ambient noise levels at dairy livestock operations.

Based on the above considerations, significant adverse impacts to noise are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

housing elsewhere?

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Significance Criteria

Impacts of the proposed project on population and housing will 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

XIII. a) The proposed project will not require any actions which will, either directly or indirectly, affect the Basin's population growth or population distribution. The intent of the proposed rule is to reduce PM10, VOC and NH₃ emissions from dairy livestock waste at existing livestock operations by continuing or modifying existing dairy livestock waste management operations beyond what is currently required by SARWQCB. Based on historical trends, the number of dairies and population of cows in the Basin have been declining by approximately two percent per year. This trend is expected to continue in the future. The proposed project does not induce growth either directly, or indirectly. The proposed project does not include any actions which would require additional personnel to be hired in order to comply with the requirements in PR 1127.

XIII. b) & c) As noted above, implementing the proposed project will not require any actions which will, either directly or indirectly affect the Basin's population. Further, PR 1127 will not displace substantial numbers of people (or housing) necessitating the construction of replacement housing elsewhere. The proposed project is intended to reduce NH₃ and VOC emissions from dairy livestock waste.

Based on the above considerations, significant adverse impacts to population and housing are not expected from PR 1127. Since there are no significant adverse impacts, 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts on public services will 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

XIV. a) - b) Current fire, police and emergency services would be adequate to serve existing facilities. Because the proposed project does not require or involve the use of hazardous materials or hazardous waste, it will not generate an emergency situation that would require additional fire or police protection, or impact acceptable service ratios or response times.

XIV. c) - e) The proposed project does not require any action (e.g. the construction of buildings new facilities) which would alter and, thereby, adversely affect existing public services, or require an increase in governmental facilities or services to support the affected existing facilities.

Also, as noted in Section "XIII. Population and Housing," no provisions of the proposed project will induce population growth, which would result in the need for additional schools, parks or other public facilities. The proposed project will not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives.

Based on the above considerations, significant adverse impacts to public services are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

The project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The project adversely effects existing recreational opportunities.

Discussion

XV. a) & b) The proposed project does not require any action (e.g. the construction of any building or facility) which will promote or alter existing populations or densities in the Basin. There are no provisions of the proposed project that would directly or indirectly affect land use plans, policies or ordinances or regulations. No provisions of this proposed project would either directly, or indirectly, cause an increase in the Basin's population that would increase the use of existing neighborhood/regional parks or recreational facilities, thereby causing a substantial or accelerated deterioration to these facilities. As previously mentioned, based on historical trends, the number of dairies and population of cows in the Basin have been declining by approximately two percent per year. This trend is expected to continue in the future. Further, the proposed project does not include recreational facilities or require the construction of new, or expansion of existing, recreational facilities that may cause an adverse physical effect on the environment.

Based on the above considerations, significant adverse impacts to recreation are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

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

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

Discussion

XVI. a) & b) Because of its economic values as a fertilizer or soil amendment product for agricultural operations or use as a feedstock for compost it is unlikely that manure will be disposed in a sanitary landfill. The objective of PR 1127 is to reduce NH₃ and VOC emissions from dairy livestock waste through continued or expanded waste management operations beyond what is currently required by SARWQCB. The proposed rule requires dairy operators that processes their manure to either (1) processing the manure at an anaerobic digester; or (2) processing the manure at a controlled composting facility or (3) process the manure at a FIV composting facility. No components of PR 1127 require manure to be removed and disposed to a landfill. If the manure is processed through an FIV, then the composting bags will need to be replaced after each composting cycle. The composting bag can not be reused but it is recyclable. After processing, the compost is used as a substitute for commercial petroleum-based fertilizer. Therefore, it is not expected that any components of PR 1127 will affect landfill capacity, solid waste disposal or conflict with any federal, state or local statutes regarding non-hazardous solid waste. Existing livestock operations do not typically use hazardous materials as part of their process, and, therefore, are not expected to dispose of hazardous waste. As a result, affected facilities would not be subject to federal, state and local statutes related to hazardous waste management. No components of PR 1127 would alter the current practices at livestock facilities (e.g. dairies) related to either non-hazardous solid, or hazardous waste.

Based on the above consideration, significant adverse impacts to solid/hazardous waste are not expected from PR 1127. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/CIRCULATION			
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on transportation/traffic will 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 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.

The need for more than 350 employees

An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day

Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) Since the annual amount of manure is not expected to change, the number of trucks to haul the manure out of the dairy does not change. By continuing the current manure disposal practice, the haul trucks are expected to travel the same distance. If switching disposal method to an alternative manure process (such as a composting facility), the haul trucks are expected to travel the same or similar distance since the composting sites are expected to be local. In some cases, the distance traveled by the haul trucks will be shortened. This would result if manure that was transported out of the basin is now processed locally, then the haul truck trip distance would be shortened.

XVII. c) The proposed project has no requirements that influence or affect air traffic patterns or levels because PR 1127 contains no requirements for transportation of materials by air. Similarly, PR 1127 does not require the construction of any new buildings or facilities near airport facilities that would be expected to alter or affect air traffic patterns. PR 1127 affects manure management operations at existing dairy livestock operations and, therefore, does not require any components that would affect air traffic or result in substantial safety risks.

XVII. d) The proposed project does not require or include any facility modifications which would necessitate the construction of roadways or thoroughfares that might include hazardous design features either onsite, or offsite; or necessitate incompatible vehicular uses.

XVII. e), f) & g) The proposed project does not require any changes to existing dairy livestock operations which would adversely affect emergency access, parking capacity, or conflict with alternative transportation policies, plans or programs already in place. PR 1127 would continue or expand dairy livestock manure management operations beyond what is currently required by SARWQCB regulations.

Based on the above considerations, significant adverse impacts to transportation/circulation are not expected from PR 1127. Since there are no significant adverse impacts, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

XVIII. a) The proposed project affects dairy livestock operations in the Basin. PR 1127 is expected to improve air quality by reducing PM10, NH₃ and VOC emissions from dairy waste by requiring a certain percentage of manure generated by these operations beyond what is currently

required by SARWQCB to be removed offsite by specific compliance years. The proposed project does not have the potential to adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. Affected dairy operations are existing facilities have already been greatly disturbed and currently do not support vegetative habitat, wildlife species, or historic resources. In addition, the project does not include the construction of any buildings or new facilities. Therefore, the proposed project would not adversely affect wildlife resources or eliminate or disturb important examples of the major periods of California history or prehistory.

XVIII. b) Based on the foregoing analyses, since PR 1127 will not result in project-specific significant adverse environmental impacts, PR 1127 is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project. Furthermore, PR 1127 impacts will not be "cumulatively considerable" because the incremental impacts are not considerable when viewed in connection with the effects of past, current, or probable future projects.

XVIII. c) Based on the foregoing analyses, the proposed project itself is not expected to cause adverse effects on human beings. The proposed project will reduce approximately 3.36 tons per day of NH₃, 1.19 tons per day of VOC and 0.1 tons per day of PM₁₀ emissions reductions from the atmosphere by the year 2006 based on the 1997 baseline emissions inventory methodology. Reducing PM₁₀ as well as VOC and NH₃ emissions, precursors to PM₁₀ and ozone, is expected to positively affect human health by reducing population exposure to PM₁₀ and ozone in the Basin. Reducing criteria pollutant and/or precursor emissions contributes to improving air quality in the Basin, which will result in direct beneficial health effects.

APPENDIX A

PROPOSED RULE 1127

- EMISSION REDUCTIONS FROM LIVESTOCK WASTE

In order to save space and avoid repetition, please refer to the latest version of the proposed amended Rule 1127 located elsewhere in the rule package. The “Draft Version dated March 26, 2004” of the proposed amended rule was circulated with the Draft EA that was released on March 30, 2004 for a 30-day public review and comment period ending April 28, 2004.

Original hard copies of the Draft EA, which include the “Draft Version dated March 26, 2004” of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

CONSTRUCTION AND OPERATIONAL EMISSIONS CALCULATIONS

Construction Emissions

Although PR 1127 does not directly require the dairies to process the manure, there is a requirement if the dairies process the manure to comply with one of the following three options: (1) transport the manure to an anaerobic digester; or (2) transport the manure to a composting facility that complies with SCAQMD Rule 1133.2; or (3) transport the manure to a fabric in-vessel composting facility that meets performance standards.

Because the use of an alternative manure composting operation (such as an FIV facility) might not be allowed without PR 1127, the anticipated operation of 14 FIV facilities could be the result of the proposed rule. FIV facilities require the paving of an impermeable pad upon which the FIV lies. It is uncertain how large of a pad would be paved or how many bags can be managed at one site, but existing sites confirm that one large pad can accommodate approximately 20 composting bags. Each bag can compost up to 200 tons of manure in 10-14 weeks. Therefore, three to five composting cycles can take place in one bag location per year. Using an average of four cycles per year, 800 tons of manure can be composted per year in one bag location (or 16,000 tons per year on one asphalt concrete pad). As explained in the “General Effects” section, the “worst case” scenario is the anticipated total annual manure sent to and composted at an alternative manure composting (226,415 tons per year) would require approximately 14 FIV composting facilities (226,415 tons per year/16,000 tons per year/pad = 14 pads) by 2006.

While the actual space needed for 20 bags is 40,000 square feet (200 ft x 10 ft x 20 bags), the calculations were based on 50,000 square feet to account for the space needed between the bags and the space needed for the hopper to fill the bags. To protect the soil from potential composting leaks, the pad should not be porous. The substrate of the pad may vary depending upon builder preference, cost, porosity characteristics, and regulations governing the operation of the composting site. A cement pad or an asphalt concrete pad are acceptable options, however, due to its high cost to purchase and pour, a thick cement pad is not expected. Thus, the construction of a three inch asphalt concrete pad on top of a six inch cement treated base atop graded soil is used in the calculations of the construction phase of the project. It is assumed that the construction of these pads would take place during the year 2005 in order to for the FIV composting to begin by January 1, 2006. These calculations are based on the construction of one pad in different daily phases, including grading and paving.

The air quality evaluation does a “worst case” analysis if all 14 pads were constructed on the same day. However, it is unlikely that these FIV composting facilities will be constructed on the same day because of capital financing, land acquisition, construction crew and construction equipment availability. Based on the daily construction emissions, the air quality impacts are not significant.

TABLE B-1
Phase I – Initial Grading

	CO	VOC	NOx	SOx	PM10
EMFAC 2002 On-Road Motor Vehicle Emission Factor for Year 2005 (pounds per mile)	0.015165	0.001626	0.001634	0.00001	0.000079
Emissions from three worker vehicles (pounds per day) ⁽¹⁾	2.27	0.24	0.245	0.0015	0.012
Motor Grader Emission Factor (pounds per hour) ⁽²⁾	0.151	0.039	0.713	0.086	0.061
Emissions from one motor grader clearing space for one asphalt concrete pad (pounds per day) ⁽³⁾	0.6	0.16	2.8	0.34	0.24
Water Truck Emission Factor (pounds per mile) ⁽⁴⁾	0.020984	0.002955	0.028142	0.000246	0.0005
Emissions from one water truck (pounds per day) ⁽⁵⁾	0.04	0.006	0.056	0.0005	0.001
Fugitive Dust from grading for one asphalt concrete pad (25,000 square feet) ⁽⁶⁾	--	--	--	--	7.6
TOTAL CONSTRUCTION EMISSIONS – ONE FACILITY (pounds per day)	2.91	0.41	3.10	0.34	7.85
TOTAL CONSTRUCTION EMISSIONS – 14 FACILITIES (pounds per day)	40.7	5.7	43	4.8	110
SCAQMD CONSTRUCTION SIGNIFICANCE THRESHOLD (pounds per day)	550	75	100	150	150
SIGNIFICANT?	No	No	No	No	No

(1) Assumes 3 construction workers traveling 50 miles roundtrip. Equation: EF x miles traveled x # of workers/day

(2) SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-A (diesel)

(3) Assumes 4 hours per day per piece of construction equipment (according to Richardson Engineering Services, 1996). 4 hours is used because during a normal 8 hr work day, there will be down time due to setup and breakdown. Equation: EF x # of equipment x daily hrs

(4) From CARB's EMFAC 2002 (version 2.2) Burden Model (year 2005). Weighted average delivery trucks (>8500 pounds)

(5) Assumes 1 water truck traveling 2 miles around the site over the day. Equation: EF x miles traveled

(6) Equation: due to the shorten day, it is estimated half of the total acres are graded (25,000 sq ft / 43,562 sq ft per acre = 0.58 acre) x 26.4 pounds per day per acre graded (PM10 emission factor from SCAQMD CEQA Handbook Table A9-9) X 0.5 (control efficiency of watering to comply with SCAQMD Rule 403)

TABLE B-2
Phase II – Completion of Grading

	CO	VOC	NOx	SOx	PM10
EMFAC 2002 On-Road Motor Vehicle emission factor for Year 2005 (pounds per mile)	0.015165	0.001626	0.001634	0.00001	0.000079
Emissions from three worker vehicles (pounds per day) ⁽¹⁾	2.27	0.24	0.245	0.0015	0.012
Motor Grader emission factor (pounds per hour) ⁽²⁾	0.151	0.039	0.713	0.086	0.061
Emissions from one motor grader clearing space for one asphalt concrete pad (pounds per day) ⁽³⁾	0.6	0.16	2.8	0.34	0.24
Roller emission factor (pounds per hour) ⁽²⁾	0.30	0.065	0.87	0.067	0.05
Emissions from one roller to compact pad area (pounds per day) ⁽⁴⁾	0.6	0.13	1.74	0.13	0.1
Water Truck emission factor (pounds per mile) ⁽⁵⁾	0.020984	0.002955	0.028142	0.000246	0.0005
Emissions from one water truck (pounds per day) ⁽⁶⁾	0.04	0.006	0.05	0.0005	0.001
Fugitive Dust from grading for one asphalt concrete pad (25,000 square feet) ⁽⁷⁾	--	--	--	--	7.6
TOTAL CONSTRUCTION EMISSIONS – ONE FACILITY (pounds per day)	3.5	0.54	4.8	0.47	7.9
TOTAL CONSTRUCTION EMISSIONS – 14 FACILITIES (pounds per day)	49	7.6	67.2	6.6	111
SCAQMD CONSTRUCTION SIGNIFICANCE THRESHOLD (pounds per day)	550	75	100	150	150
SIGNIFICANT?	No	No	No	No	No

(1) Assumes 3 construction workers traveling 50 miles roundtrip. Equation: EF x miles traveled x # of workers/day

(2) SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-A (diesel)

(3) Assumes 4 hours per day per piece of construction equipment to complete grading (according to Richardson Engineering Services, 1996). Equation: EF x # of equipment x daily hrs

(4) From CARB's EMFAC 2002 (version 2.2) Burden Model (year 2005). Weighted average delivery trucks (>8500 pounds).

(5) Assumes 2 hours per day per piece of construction equipment to compact with roller (according to Richardson Engineering Services, 1996). Equation: EF x # of equipment x daily hrs

(6) Assumes 1 water truck traveling 2 miles around the site over the day. Equation: EF x miles traveled

(7) Equation: the remaining of the total acres are graded (25,000 sq ft / 43,562 sq ft per acre = 0.57 acre) x 26.4 pounds per day per acre graded (PM10 emission factor from SCAQMD CEQA Handbook Table A9-9) X 0.5 (control efficiency of watering to comply with SCAQMD Rule 403)

TABLE B-3
Phase III – Initial Paving

	CO	VOC	NOx	SOx	PM10
EMFAC 2002 On-Road Motor Vehicle emission factor (year 2005) in pounds per mile	0.015165	0.001626	0.001634	0.00001	0.000079
Emissions from three worker vehicles (pounds per day) ⁽¹⁾	2.27	0.24	0.245	0.0015	0.012
Paver emission factor (pounds per horsepower per hour) ⁽³⁾	0.007	0.001	0.023	0.002	0.001
Emissions from one paver to apply asphalt for one-acre pad (pounds per day) ⁽³⁾	1.4	0.2	4.6	0.4	0.0025
TOTAL CONSTRUCTION EMISSIONS (pounds per day)	3.7	0.44	4.8	0.4	0.01
TOTAL CONSTRUCTION EMISSIONS – 14 FACILITIES (pounds per day)	52	6.2	67.2	5.6	0.14
SCAQMD CONSTRUCTION SIGNIFICANCE THRESHOLD (pounds per day)	550	75	100	150	150
SIGNIFICANT?	No	No	No	No	No

(1) Assumes 3 construction workers traveling 50 miles roundtrip. Equation: EF x miles traveled x # of workers/day

(2) SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-B (diesel)

(3) Assumes 4 hours per day per piece of construction equipment and 50 HP. Equation: EF x horsepower of equipment x daily hrs

TABLE B-4

Phase IV – Completion of Paving

	CO	VOC	NOx	SOx	PM10
EMFAC 2002 On-Road Motor Vehicle emission factor (year 2005) in pounds per mile	0.015165	0.001626	0.001634	0.00001	0.000079
Emissions from three worker vehicles (pounds per day) ⁽¹⁾	2.27	0.24	0.245	0.0015	0.012
Roller emission factor (pounds per hour) ⁽²⁾	0.30	0.065	0.87	0.067	0.05
Emissions from one rollers to smooth out asphalt for one-acre pad (pounds per day) ⁽³⁾	1.2	0.26	3.5	0.27	0.2
TOTAL CONSTRUCTION EMISSIONS (pounds per day)	3.5	0.5	3.7	0.27	0.21
TOTAL CONSTRUCTION EMISSIONS – 14 FACILITIES (pounds per day)	49	7	52	3.8	2.9
SCAQMD CONSTRUCTION SIGNIFICANCE THRESHOLD (pounds per day)	550	75	100	150	150
SIGNIFICANT?	No	No	No	No	No

(1) Assumes 3 construction workers traveling 50 miles roundtrip. Equation: EF x miles traveled x # of workers/day

(4) SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-A (diesel)

(5) Assumes 4 hours per day per piece of construction equipment. Equation: EF x # of equipment x daily hrs

TABLE B-5

Peak Daily Construction Emissions (from Phase II)

	CO	VOC	NOx	SOx	PM10
TOTAL CONSTRUCTION EMISSIONS – 1 FACILITY (pounds per day)	3.5	0.54	4.8	0.47	7.9
TOTAL CONSTRUCTION EMISSIONS – 14 FACILITIES (pounds per day)	49	7.6	67.2	6.6	111
SCAQMD CONSTRUCTION SIGNIFICANCE THRESHOLD (pounds per day)	550	75	100	150	150
SIGNIFICANT?	No	No	No	No	No

Operational Emissions

The manure is currently being hauled from the dairy to another facility (composting, in-region land spreading or out-of-basin transport). The haul truck emission calculations are not included as an operational emission at the FIV facility because it is assumed that the distance and, therefore, the emissions will be the same or less than the current conditions. Please refer to Table 2-1 of further breakdown on the effect of the haul truck trips from PR 1127. Table B-6 outlines the typical operational activities and the corresponding effect of emissions from an FIV facility.

TABLE B-6
Daily Operational Emissions at an FIV Facility

	CO	VOC	NOx	SOx	PM10
EMFAC 2002 On-Road Motor Vehicle emission factor (year 2005) in pounds per mile	0.015165	0.001626	0.001634	0.00001	0.000079
Emissions from worker vehicles (pounds per day) ⁽¹⁾	2.27	0.24	0.245	0.0015	0.012
Fork Lift (50 HP) emission factor (pounds per hour) ⁽²⁾	0.18	0.53	0.441	--	0.031
Emissions from one fork lift loading the hopper (pounds per day) ⁽³⁾	0.72	2.12	1.76	--	0.124
Hopper engine emission factor ⁽⁴⁾	0.011	0.002	0.018	0.002	0.001
Emissions from engine to power hopper ⁽⁵⁾	0.57	0.10	0.94	0.10	0.05
TOTAL OPERATIONAL EMISSIONS (pounds per day)	3.6	2.5	2.9	0.10	0.19
TOTAL OPERATIONAL EMISSIONS – 14 FACILITIES (pounds per day)	50.4	35	40.6	1.4	2.7
SCAQMD OPERATIONAL SIGNIFICANCE THRESHOLD (pounds per day)	550	55	55	150	150
SIGNIFICANT?	No	No	No	No	No

(1) Assumes 3 employees traveling 50 miles roundtrip. Equation: EF x miles traveled x # of workers/day

(2) SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-A (diesel)

(3) Assumes 4 hours per day (during a normal 8 hr work day, there will be down time due to setup and breakdown).

(4) Similar to generator set (<50 HP) from SCAQMD CEQA Air Quality Handbook (April 1993), Table A9-8-B (diesel) and hopper engine horsepower of 13 HP (for hopper with a fill rate of one ton per minute)

(5) Assumes 4 hours per day (during a normal 8 hr work day, there will be down time due to setup and breakdown).. Equation: EF x horsepower of equipment x daily hrs