SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

~~DRAFT~~ FINAL ENVIRONMENTAL ASSESSMENT FOR Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares

~~June 30, 2005~~ October 2005

SCAQMD No. ~~063005KCS~~ 102605MK

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PREFACE

The Draft Environmental Assessment (EA) for the proposed amendments to Rule 1118 – Control of Emissions from Refinery Flares was circulated for a 30-day public review and comment period from June 30, 2005 to July 29, 2005. Three comments letters were received. Two of the comments letters were related to the analysis in the EA and responses have been prepared. The responses to the comment letters are included in Appendix C. The third comment letter was not related to the analysis in the EA, but directly related to the proposed amended rule language and discussion in the preliminary staff report. As a result, this comment letter has been forward to rule development staff and will be addressed in the final staff report and not the Final EA.

Minor modifications have been made to the Draft EA and the document is now the Final EA. The modifications (deletions and additions) to the text of the EA are denoted using ~~strikethrough~~ and underlined, respectively. Staff has reviewed the minor modifications to the proposed project and has concluded that the changes to the document do not change the conclusions made in the Draft EA or worsen the environmental impacts 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.

CHAPTER 1 - PROJECT DESCRIPTION

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INTRODUCTION

In February 1998 the SCAQMD Governing Board adopted Rule 1118 requiring all petroleum refineries, sulfur recovery plants and hydrogen production plants to monitor, record, and report the quantity and composition of all gases flared in order to establish a flare emissions inventory and assess the need for any future controls to minimize flare emissions. The facilities affected by Rule 1118 were required to submit the results of the data collected to SCAQMD staff. The Governing Board directed staff to evaluate the data submitted to the SCAQMD under Rule 1118 by the affected facilities and (1) make a determination on whether emissions from flaring operations are significant; and (2) make recommendations for the SCAQMD Governing Board's consideration on changes to Rule 1118.

SCAQMD staff compiled, evaluated and presented the results of the information and data collected from the affected facilities in a report entitled, Evaluation Report on Emissions from Flaring Operations at Refineries, dated September 3, 2004. Based on the results of this report, it was determined that ~~it was necessary to~~ further ~~reduce~~ emissions reductions from flaring operations within the Basin can be achieved. At the September 3, 2004 Governing Board meeting, the Governing Board directed staff to initiate amendments to Rule 1118 to reduce flaring emissions.

PAR 1118 establishes a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions achieved to date. The proposed amendments would: prohibit the flaring of vent gases except during emergencies, shutdowns/startups, turnarounds and essential operational needs; require submittal of equipment and process descriptions; require owners/operators of affected facilities to analyze the specific ~~root~~ cause of major flaring events; require affected facilities that exceed the performance targets to ~~the~~ develop~~ment~~ and implement~~ation~~ ~~of~~ flare management plans to minimize emissions ~~or~~, ~~alternatively, allow~~ and require affected facilities to meet ~~an~~ emission performance ~~level~~ targets by certain dates. PAR 1118 establishes ~~industry-wide~~ facility-specific performance ~~limits~~ targets which trigger mitigation fees in the event these ~~industry-wide~~ emission thresholds are exceeded.

This Final ~~Draft~~ Environmental Assessment (EA), which is a substitute document for a negative declaration (CEQA Guidelines §15252), has been prepared pursuant to the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the proposed amendments to Rule 1118 (California Public Resources Code §21000 et seq.). Throughout this document, references to "proposed project" or "PAR 1118" are one in the same and used interchangeably.

LEGISLATIVE AUTHORITY

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

[1] The Lewis-Presley Air Quality Management Act, 1976 (Health & Safety Code, §§40400-40540).

quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3]. PAR 1118 implements 2003 AQMP control measure CMB-07.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

PAR 1118 is a "project' as defined by CEQA Guidelines §15378 and California Public Resources Code §21065. The SCAQMD is lead agency for this project and has prepared this EA with no significant adverse environmental impacts pursuant to its certified regulatory program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documentation in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of Resources Agency on March 1, 1989 and is SCAQMD Rule 110.

An environmental impact is defined as an impact to the physical conditions that exist within the area which would be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic significance. CEQA and Rule 110 require that potentially significant adverse environmental impacts of proposed projects be evaluated, and that feasible methods to reduce or avoid these significant adverse environmental impacts be implemented. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this EA to evaluate the potentially significant adverse environmental impacts associated with implementing PAR 1118. The EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's analysis of PAR 1118 shows that the project will not have a significant adverse effect on the environment. Therefore, no alternatives or mitigation measures are required to be included in this EA to avoid or reduce any significant effects on the environment (CEQA Guidelines §15252(b)(2)). The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

The responses to ~~any~~ comments received during the public review period on the analysis presented in ~~this~~ the Draft EA are ~~will be~~ included in the Final EA, Appendix C. Prior to making a decision on the proposed project, the SCAQMD Governing Board must review and certify the Final EA as providing adequate information on the potential adverse environmental impacts of PAR 1118.

The cost analysis for PAR 1118 is discussed in both the staff report and socioeconomic report. The cost analysis is not discussed as part of the CEQA analysis. Pursuant to CEQA Guidelines §15131(a), "Economic or social effects of a project shall not be treated as significant effects on the environment." CEQA Guidelines §15131(b) states further, "Economic or social effects of a project may be used to determine the significance of physical changes caused by the project." The physical changes caused by the proposed project have been evaluated in Chapter 2, and no direct or indirect physical changes resulting from economic or social effects have been identified as a result of implementing the proposed project.

[2] Health & Safety Code §40460 (a).
[3] Health & Safety Code §40440 (a).

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert 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 district, 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 Riverside County portions of the SSAB and MDAB are bounded by the San Jacinto Mountains in the west and span eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

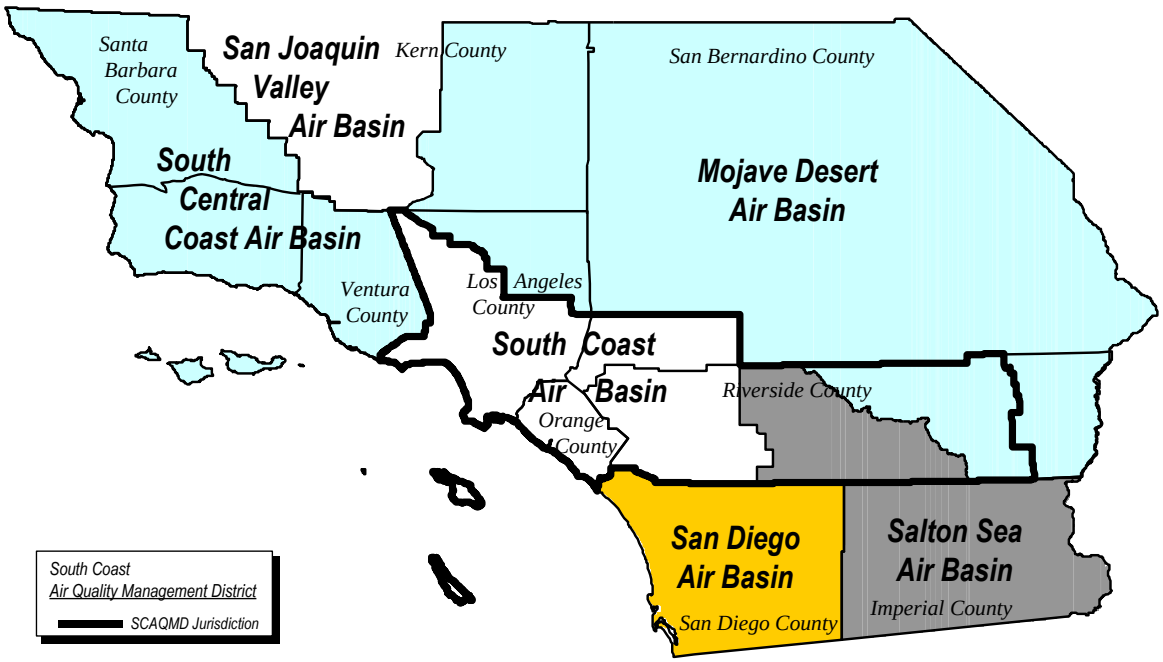

Figure 1-1
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PROJECT OBJECTIVE

The objective of PAR 1118 is to establish a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions to date without compromising the safe operation of affected facilities in the Basin. Emission reductions are achieved by prohibiting the flaring of vent gases except during emergencies, shutdowns/startups, turnarounds and essential operational needs and establishing ~~industry-wide~~ facility-specific emission performance limits.

BACKGROUND

In 1998 the SCAQMD Governing Board adopted Rule 1118 – Emissions from Refinery Flares. The purpose of this rule was to monitor, record, and report the quantity and composition of gases flared at petroleum refineries, sulfur recovery plants and hydrogen production plants in order to establish a flare emissions inventory and assess the need for any future controls to reduce flare emissions. Once the data were submitted by all affected facilities, the SCAQMD compiled, evaluated and presented the results of the information and data collected in a report entitled Evaluation Report on Emissions from Flaring Operations at Refineries, dated September 3, 2004. The report concluded that, although refineries had made important progress in reducing emissions since Rule 1118 was adopted, flare emissions, especially SOx, were significant. The report recommended amending Rule 1118 in order to require minimization, and treatments of flare vent gas, as well as refining the monitoring, reporting and emission calculation methodology in order to increase the accuracy of the data collected.

Table 1-1 shows the main reasons vent gases were flared in 2003 based on information submitted by the affected facilities, and presented in the SCAQMD evaluation report. As reflected in Table 1-1, the major sources of flare emissions were attributed to non-emergency events. This result indicates that substantial emission reductions can be achieved by eliminating non-emergency flare events.

TABLE 1-1
REASONS FOR FLARED VENT GASES IN 2003

Source			Percentage of the Total Amount
Emergency (recordable event)			9.98
Non Emergency	Non-recordable Event		46.82
	Recordable Events	Unknown	2.94
		Maintenance	6.10
		Planned Shutdown and Startup	13.63
		Process Vent	1.62
		Turnaround Activities	12.64
		Fuel Gas	6.28
			100

Source: Evaluation Report on Emissions from Flaring Operations at Refineries, Appendix C, page C-3.

The Evaluation Report on Emissions from Flaring Operations at Refineries further states that there are opportunities for owners/operators at each of the affected facilities to focus on methods best suited to their operations to identify the cause of unknown flaring events and reduce or eliminate them, and minimize flaring during turnaround activities and planned startups and

shutdowns. Owners/operators at some of the affected facilities have taken steps on their own to reduce flare emissions using a variety of approaches. One facility owner/operator invested in new equipment to increase vapor recovery capacity; one facility owner/operator installed an additional sulfur treatment system to reduce sulfur content; and one facility owner/operator reconfigured vapor recovery/flare system connections to recover process gas more efficiently and reduce flaring. Other facility owners/operators indicated that emission reductions were due to increased awareness of flare events and the application of "best management practices."

Regulatory Overview

Although all facilities affected by PAR 1118 are subject to Regulation XX – Regional Clean Air Incentives Market (RECLAIM), flares are exempt from RECLAIM. Therefore, emissions are not counted toward RECLAIM allocations when fuel gas is burned in flares during system imbalance situations. Also, emergency gases vented to a flare are exempt from the requirements of Rule 431.1 – Sulfur Content of Gaseous Fuels, but the purge and pilot gas are not. In addition, flare emissions are not generally subject to lowest achievable emission rate requirements under New Source Review (NSR) rules and are exempt from offsets because flares are considered air pollution control systems.

Besides Rule 1118, flares are subject to SCAQMD general prohibition rules, such as Rule 401 – Visible Emissions and Rule 402 – Public Nuisance.

Flares that control emissions from storage tanks or fugitive emissions that are subject to the USEPA New Source Performance Standards (NSPS) 40 CFR 60 Subpart Kb or Subpart GGG respectively, must meet the requirements of 40 CFR 60.18 – General Control Device Requirements containing provisions for flare operations. The federal regulation requires these flares to operate without visible emissions, to maintain a pilot flame present at all times the flare is in operation and observe certain limits for the net heating value and exit velocity of the gases being combusted. The regulation also requires monitoring of the flares to ensure that they are operated in compliance with these requirements.

Another NSPS regulation, 40 CFR 60 Subpart J – Standards of Performance for Petroleum Refineries, covers operation of combustion devices such as flares, that were built or modified after June 11, 1973 under 40 CFR 60.104(a). This regulation limits the concentration of hydrogen sulfide (H2S) in the vent gases routed to flares to 160 ppm. However, vent gases that are combusted due to startup, shutdown, process upset or relief valve leakage are exempt from this requirement.

~~Although all facilities affected by PAR 1118 are subject to Regulation XX – Regional Clean Air Incentives Market (RECLAIM), flares are exempt from RECLAIM. Further, emissions from the combustion of refinery fuel gas in most combustion equipment are subject to RECLAIM; however, fuel gas emissions are not counted toward RECLAIM allocations when fuel gas is burned in flares during emergency situations. Also, since flares are considered a control system, gases vented to a control system pursuant to RECLAIM are exempt from Rule 431.1 – Sulfur Content of Gaseous Fuels. In addition, flare emissions are not generally subject to lowest achievable emission rate requirements under New Source Review (NSR) rules and are exempt from offsets because they are considered air pollution control systems. Construction of new flares however, would be subject to the best available control technology (BACT) requirements of NSR. Besides Rule 1118, flares are subject to SCAQMD general prohibition rules, such as Rule 401 – Visible Emissions and Rule 402 – Public Nuisance.~~

~~The US EPA New Source Performance Standards (NSPS), under 40CFR 60.18 – General Control Device Requirements, contain provisions for flare operations. The federal regulation requires flares to operate without visible emissions, to maintain a pilot flame present at all times the flare is in operation and observe certain limits for the net heating value and exit velocity of the gases being combusted. The regulation also requires monitoring of the flares to ensure that they are operated in compliance with these requirements.~~

~~Another NSPS regulation, 40CFR 60 Subpart J – Standards of Performance for Petroleum Refineries, covers operation of combustion devices such as flares, that were built or modified after June 11, 1973 under 40CFR 60.104(a). This regulation limits the concentration of the hydrogen sulfide (H_2S) in the vent gases to 160 ppm. However, vent gases that are combusted due to startup, shutdown, process upset or relief valve leakage are exempt from this requirement.~~

PROJECT DESCRIPTION

PAR 1118 establishes a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions achieved to date. The proposed amendments would: prohibit the flaring of vent gases except during emergencies, shutdowns/startups, turnarounds and essential operational needs; require submittal of equipment and process equipment; require owners/operators of affected facilities to analyze the specific ~~root~~ cause of major flaring events; require affected facilities that exceed the performance targets to ~~the~~ develop~~ment~~ and implement~~ation~~ ~~of~~ flare management plans to minimize emissions ~~or, alternatively, allow~~ and require affected facilities to meet ~~an~~ emission performance ~~level~~ targets by certain dates. PAR 1118 establishes ~~industry-wide~~ facility-specific performance ~~limits~~ targets which trigger mitigation fees in the event that the ~~industry-wide~~ emission thresholds are ~~is~~ exceeded.

The following discussion summarizes the proposed changes to Rule 1118. Unless stated otherwise, all components of the existing rule remain in effect. A copy of PAR 1118 is located in Appendix A.

(a) Purpose and Applicability

PAR 1118 will expand the original purpose of Rule 1118 from a monitoring and data gathering rule, to a rule requiring the control and minimization of flaring emissions. PAR 1118 will also change the applicability of Rule 1118 from "all gas flares" to "all flares," used at petroleum refineries, sulfur recovery plants and hydrogen production plants.

(b) Definitions

PAR 1118 revises this section by deleting definitions which are no longer applicable, and adding new definitions to support the proposed amendments to Rule 1118. The proposed amendments revise the definitions for clean service flare, emergency service flare, flare event, flare monitoring system, gas flare, hydrogen production plant, petroleum refinery, representative sample, sulfur recovery plant and vent gas. New definitions are added to Rule 1118 for emergency, essential operational need, flare gas recovery system, flare minimization plan, natural gas, notice of sulfur dioxide exceedance, pilot, purge gas, root cause analysis, sampling flare event, shutdown, startup and turnaround. The definition of recordable flare event has been deleted.

(c) Requirements

The following requirements become effective upon date of adoption:

- All flares in operation must have pilot flames present at all times.
- ~~All flares must operate without visible emissions, as determined by US EPA Method 22~~. Operate all flares in a smokeless manner with no visible emissions except for periods not to exceed a total of five minutes during two consecutive hours, as determined by US EPA Method 22 (40 CFR Part 60 Appendix A).
- Annual acoustical or temperature leak survey ~~inspections~~ of all pressure relief devices (PRDs) connected to flares. ~~are required using acoustical or thermal surveys (only to PRDs connected to flares not equipped with flare gas recovery). The inspection must be conducted within 90 days prior to a scheduled turnaround, if one is scheduled for that calendar year.~~
- All facilities must conduct a specific ~~root~~ cause analysis ~~(RCA)~~ for any flare event with emissions exceeding any of the following: 100 pounds of VOC, 500 pounds of sulfur dioxide, or 500,000 standard cubic feet of vent gas combusted. ~~of flaring events exceeding either 100,000 standard cubic feet per minute (scfm) of combusted vent gas, or 500 pounds of sulfur dioxide emissions. Shutdowns, startups, turnarounds and essential operational needs are exempt from this requirement since their cause is known and therefore no investigation is necessary.~~
- Conduct an analysis and where feasible, determine the relative cause of any other flare events where more than 5,000 standard cubic feet of vent gas are combusted.

The following requirements are effective September 1, 2006

- Submit detailed process flow diagrams of all upstream equipment and process units venting to each flare and a complete description of the equipment, processes and procedures planned, installed or implemented within the last five years to reduce flaring.

The following requirements are effective January 1, 2007

- Operate all flares such that only vent gases resulting from an emergency, shutdown, startup, turnaround or essential operational need are combusted, and minimize flare emissions during these events.
- Operators at a facility installing flare gas treatment and recovery systems for more than two flares may request prior to January 1, 2007 an extension of the compliance date no later than January 1, 2010 as long as the operator demonstrates than an extension is necessary due to operational needs.
- ~~Only gases with a concentration of 160 ppm or less of hydrogen sulfide, excluding emergencies, shutdowns, startups and leaks from PRDs and consistent with US EPA 40CFR 60.104 can be vented to a flare.~~
- ~~Operate all flares in a manner consistent with terms and conditions of the flare management plan(s), as approved by the SCAQMD.~~
- ~~If a facility chooses not to prepare a FMP, they must apply for a Title V permit emission limit of 0.25 ton of flare-related sulfur dioxide per million barrels of crude processed during a calendar year. The facility must achieve compliance within three years from the date of rule adoption. Any exceedance will trigger the payment of a mitigation fee of $25,000 per ton of sulfur dioxide emissions over this limit.~~

(d) Performance Targets ~~Goals~~

Beginning with the calendar year 2006, total sulfur flare emissions, calculated as sulfur dioxide, shall be maintained at or below the following facility-specific ~~industry-wide~~ emission thresholds:

Beginning with year 2006 – 1.5 tons per million barrels of crude processing capacity, calculated as an average over one calendar year. ~~730 tons per year/2 tons per day~~

Beginning with year 2008 – 1 ton per million barrels of crude processing capacity, calculated as an average over one calendar year. ~~548 tons per year/1.5 tons per day~~

Beginning with year 2010 – 0.7 tons per million barrels of crude processing capacity, calculated as an average over one calendar year. ~~365 tons per year/1 ton per day~~

Beginning with year 2012 – 0.5 tons per million barrels of crude processing capacity, calculated as an average over one calendar year.

In the event the specific performance targets are exceeded at any affected facility, the Executive Officer may issue a Notice of Sulfur Dioxide Exceedance.

In the event the performance targets are exceeded, the owner or operator shall submit a Flare Minimization Plan, and pay the following mitigation fees:

- $25,000 per ton of sulfur dioxide emissions in excess of the performance target if excess emissions are no more than ten percent of the performance target, or
- $50,000 per ton of sulfur dioxide emissions in excess of the performance target if excess emissions are greater than ten percent, but no more than twenty percent of the performance target, or
- $100,000 per ton of sulfur dioxide emissions in excess of the performance target if excess emissions are greater than twenty percent of the performance target.

Notwithstanding this mitigation fee schedule, the mitigation fee for a refinery will not exceed $4,000,000 for a calendar year.

~~The owner or operator will be subject to a mitigation fee of $25,000 per each ton of the facility's flare-related sulfur dioxide emissions for any calendar year the industry-wide emission threshold is exceeded~~.

~~The owner or operation shall be exempt from paying a mitigation fee if the facility has minimized its total sulfur emissions from flares, calculated at sulfur dioxide, to 0.25 ton or less per million barrels of crude processed, calculated as a two-year average over the calendar year in which the industry-wide emission threshold is exceeded, and the prior year~~.

(e) Flare Minimization ~~Management~~ Plan Requirements

The owner or operator of a refinery exceeding the performance targets shall submit, no later than 90 days from the end of the calendar year where emissions exceeded the performance target, a complete Flare Minimization Plan for approval by the SCAQMD. The plan shall list all actions to be taken by the refinery to meet the performance targets.

The Flare Minimization Plan will be made available for public review for a period of 60 days and the SCAQMD will respond to comments prior to plan approval.

~~The owner or operator of a facility electing to prepare a FMP shall submit the plan to the SCAQMD by June 30, 2006, complete with an application and fees. For each FMP, the owner or operator shall provide information regarding all refinery operational practices including, but not limited to, monitoring, recordkeeping, reporting, and the policies and procedures to be~~

~~implemented to minimize flaring during emergencies, shutdowns and startups, turnarounds and essential operational needs.~~

~~In addition, the owner or operator may include, but is not limited to, any proposed optional procedures or modifications such as:~~

- ~~installation of flare gas recovery systems and additional gas treating capacity;~~
- ~~installation of additional flow meters on flare headers;~~
- ~~eliminating of diverting vent gas streams from flare headers;~~
- ~~routing or excess gases to a cogeneration unit;~~
- ~~sales of excess vent gases to another party; and~~
- ~~operator training to increase awareness on flaring~~.

(f) Flare Monitoring and Recording Plan Requirements

The owner or operator of a facility affected by PAR 1118 shall submit a revised flare monitoring and recording plan to the SCAQMD on or before June 30, 2006, complete with an application and appropriate fees. The information required in the flare monitoring and recording plan remains the same as required in the February 13, 1998 version of Rule 1118. Attachment A of PAR 1118 outlines the details of the Flare Monitoring System Requirements.

(g) Operation Monitoring and Recording Requirements

Subdivision (g) would be modified to be consistent with the new sections of PAR 1118 or existing sections that have been modified or deleted. Specifically, PAR 1118 requires gas heat content to be semi-continuously or continuously measured and recorded with a heat content analyzer and total sulfur content to be semi-continuously measured and recorded with a total sulfur analyzer.

PAR 1118 also requires owners and operators to install all flow meters in a manner and location that allows for accurate measurements of the total vent gas volume to the flare. If there are physical constraints that would not allow the flow meters to be placed in the appropriate location, the operator shall retrofit or equip existing flow meters with totalizing capability to indicate the true net volume of gas flow to the flare.

(h) Recordkeeping Requirements

PAR 1118 amends existing recordkeeping requirements to now require that owners/operators of flares maintain records for five years.

(i) Notification and Reporting Requirements

PAR 1118 enhances existing notification and reporting requirements by requiring owners/operators to:

- provide a 24-hour telephone service for access by the public for inquiries about flare events.
- notify the SCAQMD by telephone within one hour of any unplanned flare event with emissions exceeding any of the following: 100 pounds of VOC, 500 pounds of sulfur dioxide, or 500,000 standard cubic feet of vent gas combusted; ~~exceeding either 100,000 scf of combusted vent gas or 500 pounds of sulfur dioxide emissions;~~
- submit a follow-up report to the SCAQMD within 30 days identifying the cause and duration of the flare event, mitigation and corrective actions taken and a demonstration

that the incident was not caused by operator error, neglect or improper operation or maintenance procedures;

- notify the SCAQMD at least 24 hours prior to the start of a planned flare event with emissions exceeding any of the following: 100 pounds of VOC, 500 pounds of sulfur dioxide, or 500,000 standard cubic feet of vent gas combusted; ~~exceeding either 100,000 scf of combusted vent gas or 500 pounds of sulfur dioxide emissions;~~
- submit a quarterly report in a SCAQMD-approved electronic format which includes a chronological categorization of each flare event in the quarter by its cause as emergency, start-up or shutdown, essential operational need or other specific cause(s) and the associated emissions.

(j) Testing and Monitoring Methods

This subdivision of the rule is proposed to be modified as follows:

- Monitor the higher heating value of the flare vent gas with a semi-continuous analyzer meeting or exceeding the specifications in Attachment A to the rule.
- Monitor the total sulfur concentration calculated as sulfur dioxide with a semi-continuous total sulfur analyzer meeting or exceeding the requirements in Attachment A to the rule; or use SCAQMD Method 307-91; or updated ASTM Method 5504-01.
- Flare flow meter accuracy must be verified annually according to manufacturer's procedures.
- ~~Effective July 1, 2006, those facilities that do not use a total sulfur analyzer and take samples to determine the total sulfur concentration will have to use an outside SCAQMD approved laboratory.~~
- To determine visible emissions from flares, use procedures outlined in US EPA Method 22, 40CFR Part 60 Appendix A.

(k) Exemptions

Flare-related total sulfur emissions, calculated as sulfur dioxide, resulting from natural disasters and acts of war or terrorism, are exempt from being counted towards the ~~annual industry-wide limits established under~~ Performance ~~Goals~~ Targets since these events are beyond the control of the subject facilities.

Other

Both Attachment A – Flare Monitoring System Requirements, and Attachment B – Guidelines for Calculating Flare Emissions, in the existing rule will be modified to be consistent with the proposed rule amendments.

EMISSIONS INVENTORY AND EMISSIONS REDUCTIONS

Air Quality Management Plan (AQMP) Planning Inventory

According to the 2003 AQMP, the SOx emissions inventory for refinery flares, based on the 1997 annual reports for emissions fee billing (EFB), is 4.14 tons per day (the initial number, based on unaudited data at the time the AQMP was published, was 4.4 tons per day). By 2010, this inventory was projected to be reduced 50 percent through the implementation of better management practices to minimize unnecessary flaring. The AQMP also assumed concurrent

emission reductions for other criteria pollutants (e.g. NOx, CO, PM10 and VOC), although these emission reductions were not quantified.

Reported Flare Emissions per Rule 1118

Rule 1118 currently requires flare emissions to be reported on a quarterly basis, calculated based on flare vent gas flows and weekly samples that are analyzed to determine the total sulfur concentration and the higher heating value (HHV) of the vent gas. These emissions are different from the annual emissions reported under the EFB program, where reported flare emissions are calculated based on crude throughput and the amount of elemental sulfur produced at each facility, using appropriate emission factors.

Table 1-2 reflects a summary of the Rule 1118 quarterly reports showing the industry-wide flare emissions by year. These emissions represent four years of data in tons per year and tons per day.

TABLE 1-2
INDUSTRY-WIDE FLARE EMISSIONS

	NOx		VOC		CO		PM10		SOx	
Year	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**
2000	135.95	0.37	125.25	0.34	732.59	2.0	42.88	0.12	2,633.19	7.21
2001	379.70	1.04	455.82	1.25	2,058.32	5.64	87.08	0.24	1,793.32	5.0
2002	83.45	0.23	77.82	0.21	450.08	1.23	25.03	0.07	754.21	2.07
2003	78.97	0.22	74.68	0.2	423.36	1.16	23.33	0.06	734.94	2.0

Source: Evaluation Report on Emissions from Flaring Operations at Refineries, Appendix A, Table A-1. Totals rounded.

The emission reductions expected from PAR 1118 are shown in Table 1-3. The assumptions applied to calculate these emission reductions are: (1) emissions are a function of gas flow and the physical characteristics of the vent gas ~~by 2010 gas flows will be reduced through the addition of flare gas recovery systems and FMPs~~; (2) by 201~~2~~0 the affected facilities will have met the performance target of 0.5 ton SOx per million barrels of crude processing capacity ~~90 percent of the vent gas flow will be captured, treated and sent to a refinery's fuel gas system~~; (3) by 2010, 53 percent (from the averaging of 2002 and 2003 data) of the vent gas flow will be reduced; ~~the affected facilities will have met the performance goal of one ton per day of SOx;~~ and (4) by virtue of reducing the vent gas flows by 53 percent, the concurrent combustion emissions (e.g. NOx, VOC, CO and PM10) will ~~also~~ be reduced by 53 ~~90~~ percent.

As reflected previously (Table 1-1), the major category of flare events during the four year study period were attributed to non-emergency events. According to Table 1-1, emergency flare events generated approximately 10 percent of the total amount of vent gases and non-emergency, events generated all remaining vent gases, or approximately 90 percent. The SCAQMD assumes that by 2010 53 percent of all vent gases, other than gases due to emergency, maintenance, turnaround, planned shutdown events, can be controlled. ~~This is the source of the 90 percent in emission reductions discussed above.~~

TABLE 1-3
PAR 1118 EMISSION REDUCTIONS

	Emissions by Pollutant

	NOx		VOC		CO		PM10		SOx	
	tons/ yr	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**	**tons/ yr**	**tons/ day**
Year 2003 Inventory	79	0.22	75	0.2	423	1.16	23	0.06	735	2.0
Emission Reductions	42 ~~71~~	0.12 ~~0.2~~	40 ~~67.5~~	0.11 ~~0.2~~	224 ~~381~~	0.61 ~~1.04~~	12 ~~21~~	0.03 ~~0.06~~	370	1.01
Remaining Emissions Year 2010	37 ~~8~~	0.1 ~~0.02~~	35 ~~7.5~~	0.09 ~~0.02~~	199 ~~42~~	0.55 ~~0.16~~	11 ~~2~~	0.03 ~~0.005~~	365	1.0

Totals rounded

AFFECTED FACILITIES

PAR 1118 affects ~~six~~ seven petroleum refineries, one sulfur recovery plant and one hydrogen production plant in the district. All of these facilities submitted flare emissions data and information in accordance with Rule 1118. Table 1-4 lists the affected facilities and the number of flares owned and operated by that facility. The facility names have been omitted to preserve confidentiality.

The flare inventory as outlined in Table 1-4 below, shows a total of 8 facilities and 27 flares (4 clean service and 23 emergency/general service).

TABLE 1-4
FLARE INVENTORY

Facility	Number of Flares	Type of flare	Type of Service	
			Clean	Emergency/General Service
A	4	Elevated	1	3
B	1	Ground Flare	1	
C	2	Elevated		2
D	2	Elevated	1	1
E	5	Elevated		5
F	1	Elevated		1
G	6	Elevated		6
H	6	Elevated	1	5

Source: Preliminary Draft Staff Report.

A FLARE OVERVIEW

Refineries employ a variety of processes that fall into five general categories: separation processes, petroleum conversion processes, petroleum treating processes, feedstock and product handling, and auxiliary facilities. There are three ~~four~~ refinery process~~es~~ units that are ~~generally~~ major sources of ~~process~~ vent gases: ~~vacuum~~ distillation, fluid catalytic cracking, thermal cracking. ~~and sulfur recovery~~. These processes ~~are sources of~~ route vent gases ~~vented~~ to the fuel gas system or vapor recovery systems ~~and the flares~~ during normal operations (e.g., to control pressure), planned shutdowns/startups, and process upsets.

~~Vent gases from these processes are usually routed to pressure-relief systems connected to flares. These vent gases may also be collected and treated for use as fuel gas at the refinery or sold to other facilities~~. Vent gases consist of large volumes of hydrocarbons ~~gases~~ containing hydrogen sulfide, ammonia, organic sulfur and mercaptans. ~~are produced from these processes~~. These chemical compounds are converted from sulfur and nitrogen, natural components of crude oil, during the refining processes.

In general, flares are used to burn and dispose of excess pressures ~~combustible process gases~~ that are generated as part of the production processes, during a process upset condition or other emergency ~~situation.~~ Flares are also used as safety devices to reduce the potential for fires and explosions due to unburned gaseous hydrocarbon releases. Flares can be elevated like a stack where the combustion, or burn-off, takes place at the top of the flare and the flames are visible from a distance. Flares can also be of the ground-flare type where the burners are concentrically located ~~near the ground level~~ in a shrouded, refractory lined enclosure. Both types of flares are capable of destruction of hydrocarbons and other combustible gases.

A flare must be kept in operational status whenever the system it serves is in operation. Therefore, the pilot burners are kept on at all times. A stream of combustible gas, called purge gas, is continuously pumped through the pipes and into the flare to prevent air from entering the flare header and creating an unsafe, explosive mixture of air and hydrocarbons.

Some flares serve only one process area, while others are used to serve a number of process units for a wide variety of purposes, ranging from controlling gases from routine or non-routine operations (e.g. purged non-emergency releases of excess pressure, venting of storage tanks/ wastewater sumps, equipment leaks) to the disposal of large quantities of gases during an emergency. Therefore, depending on how a flare is designed and used, flares are classified into three categories: clean service, emergency service, and general service.

> A ***clean service*** flare is used to only burn natural gas, hydrogen, liquefied petroleum gas, or other gases with a fixed composition vented from specific equipment. These gases contain little or no sulfur, and the quality (i.e., heat content and sulfur content) of the gas is usually predictable regardless of the flaring situations.
>
> An ***emergency service*** flare is a flare that receives vent gas only during emergencies. The quality and volume of the vent gases vary depending on the source and duration of the emergency release. Nevertheless, an emergency flare is usually in a standby mode and does not create emissions except for those associated with pilot and purge gases and during actual emergencies.

The ***general service*** flare is the most complicated and most common flare configuration. In addition to the services described above, general service flares are also used to dispose of gases from routine or non-routine operations including purged or waste products, non-emergency releases of excess pressures, venting of storage tanks or wastewater sumps and equipment leaks, startups and shutdowns, turn around activities, etc.

Instead of trying to reduce flaring emissions after they have been generated, it is much more effective to reduce the volume of vent gas going to a flare and treat the vent gas going to a flare. To maximize the recovery of all gases vented to flares, the gas recovery compressor and associated equipment need to be designed adequately to handle the expected vent gas volumes. If the existing gas recovery system is inadequate to handle the expected vent gas volumes, the compressor and associated equipment will have to be modified. Most refineries in the district have some sort of gas recovery system to capture the vent gases; however, some systems may be insufficient to handle the current volume of vent gases.

Figure 1-2 is intended to illustrate a typical flare gas recovery system (simplified).

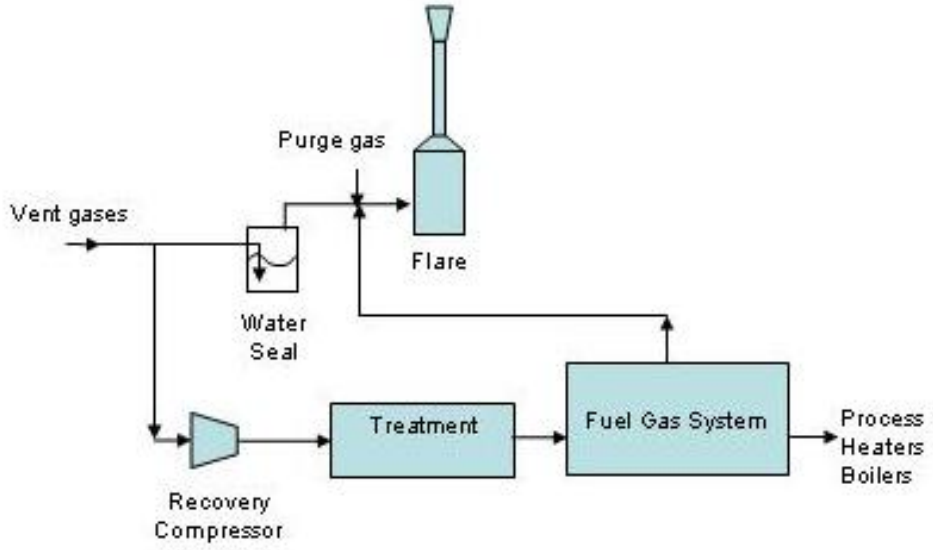

Figure 1-2 - Typical Flare Gas Recovery System

CHAPTER 2- ENVIRONMENTAL CHECKLIST

Introduction

General Information

Potentially Significant Impact Areas

Determination

General Effects of the Proposed Project

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts associated with implementation of the proposed amendments to Rule 1118.

GENERAL INFORMATION

Project Title:	Proposed Amended Rule (PAR) 1118 – Control of Emissions from Refinery Flares
Lead Agency:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765 www.aqmd.gov
CEQA Contact Person:	Kathy C. Stevens (909) 396-3439 kstevens@aqmd.gov
PAR 1118 Contact Person:	Eugene Teszler (909) 396-2077 eteszler@aqmd.gov
Project Sponsor:	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765 www.aqmd.gov
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1118 establishes a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions achieved to date. The proposed amendment would prohibit the flaring of vent gases except during emergencies, shutdowns/startups and essential operational needs, require owners/operators of affected facilities to analyze the root cause of major flaring events, require the development and implementation of flare management plans to minimize emissions or, alternatively, allow affected facilities to meet an emission performance level. PAR 1118 establishes ~~industry-wide~~ facility-specific performance limits which trigger mitigation fees in the event they are exceeded.
Surrounding Land Uses and Setting:	Primarily industrial and commercial.
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.

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

DETERMINATION

On the basis of this initial evaluation:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because the mitigation measures described on an attached sheet have been added to the project. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

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

Date: June 30, 2005 **Signature:** Steve Smith

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

GENERAL EFFECTS OF THE PROPOSED PROJECT

PAR 1118 establishes a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions achieved to date. PAR 1118 would prohibit the flaring of vent gases except during emergencies, shutdowns/startups and essential operational needs, require owners/operators of affected facilities to analyze the root cause of major flaring events, require the development and implementation of flare management plans to minimize emissions or, alternatively, allow affected facilities to meet an emission performance level. PAR 1118 establishes ~~industry-wide~~ facility-specific performance limits which trigger mitigation fees in the event they are exceeded.

In September 2004, SCAQMD staff submitted a report entitled Evaluation Report on Emissions from Flaring Operations at Refineries, which summarized data submitted by all Rule 1118 affected facilities regarding their respective flaring emissions between the fourth quarter of 1999 and the fourth quarter of 2003. The report found that over 90 percent of the flaring events were attributed to non emergency events. As a result, the proposed amendments to Rule 1118 were initiated.

It is important to note that the proposed amendments will prohibit the flaring of vent gases except during the events outlined above, require root cause analyses and diagnostic procedures, and require industry-wide emission limits. The implementation of PAR 1118 will reduce not only direct emissions of SOx from flaring, but reduce emissions of NOx, VOC, CO and PM10 as well. Further, by requiring the facilities affected by PAR 1118 to prepare a Flare Management Plan and perform root cause analyses, the potential for unexpected emergencies and possible safety hazards will be reduced.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

AESTHETICS DISCUSSION:

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.

a) – d) PAR 1118 applies to flares at petroleum refineries, sulfur recovery plants and hydrogen production facilities. These affected facilities are typically devoid of scenic vistas and are located within designated industrial or commercial areas. Flares are equipment located within the boundaries of these existing affected facilities. PAR 1118 will not require any modifications to existing flares at affected facilities which would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Any site modifications performed in order to comply with the proposed project will be conducted within the boundaries of the existing affected facilities. The visual character of the area is expected to remain the same and would not be degraded due to any onsite facility modifications. Since PAR 1118 will reduce flaring events in the future, the visual character in the vicinity of affected facilities is expected to improve as a result of diminished frequency of flare events and less ~~eliminating any~~ smoke emissions associated with flare events.

Further, additional light or glare would not be created by PAR 1118 which would adversely affect day or nighttime views in the area since no light generating equipment would be installed, or added to the facility, specifically to comply with the proposed project. To the extent that flares are visible in the vicinity of affected facilities, minimizing flare events will reduce ~~or eliminate~~ this source of light.

Based on the above discussion, the proposed project will not have a significant adverse impact on aesthetics. Since no significant adverse impacts are anticipated, no mitigation measures are required.

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

AGRICULTURAL RESOURCES DISCUSSION:

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.

a) – c) PAR 1118 applies to flares at petroleum refineries, sulfur recovery plants and hydrogen production facilities. These affected facilities are typically devoid of agricultural resources and located within designated industrial/commercial areas. Flares are equipment located within the boundaries of these existing affected facilities. PAR 1118 will not require any modifications to existing affected facilities which would convert any classification of farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Any site modifications performed in order to comply with the proposed project will be conducted within the boundaries of the existing affected facilities.

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

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

AIR QUALITY DISCUSSION:

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and by the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter less than 10 microns (PM10), sulfur dioxide (SO2) and lead. New standards for fine particulates, PM2.5, have also been adopted recently. Further, California has additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility. Attainment of the state and federal ambient air quality standards protect sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. These standards are established to protect sensitive receptors within a margin of safety from adverse health impacts due to exposure to air pollution.

Significance Criteria

To determine whether or not air quality impacts from adopting and implementing the proposed amendments are significant, potential impacts will be evaluated and compared to the following criteria. If impacts equal or exceed any of the following criteria in Table 2-1, they will be considered significant.

TABLE 2-1
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
Oxides of Nitrogen (NOx)	100 lbs/day	55 lbs/day
Volatile Organic Compound (VOC)	75 lbs/day	55 lbs/day
Particulate Matter less than 10 microns in size (PM10)	150 lbs/day	150 lbs/day
Sulfur Oxide (SOx)	150 lbs/day	150 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (including carcinogens and non-carcinogens)	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	
Ambient Air Quality for Criteria Pollutants [(a)]		
NO_2 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 parts per million (state) 0.053 parts per million (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	 10.4 ug/m^3 (recommended for construction) [(b)] 2.5 ug/m^3 (operation) 1.0 ug/m^3 20 ug/m^3	
Sulfate 24-hour average	 1 ug/m^3	
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 parts per million (state) 9.0 parts per million (state/federal)	

(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
(b) Ambient air quality threshold based on SCAQMD Rule 403.
ug/m^3 = microgram per cubic meter
mg/m^3 = milligram per cubic meter

a) PAR 1118 is intended to benefit air quality and be consistent with, rather than conflict with, or obstruct, the implementation of the SCAQMD's AQMP. When Rule 1118 was originally adopted by the SCAQMD on February 13, 1998, it constituted the first step (Step I – Inventory Assessment) in a two-step approach to controlling emissions from refinery flares. Rule 1118 implemented in part, control measure CMB-07 in the 1997 Air Quality Management Plan (AQMP). PAR 1118 is the second step (Step II – Development and Implementation of Control Technology) in controlling emissions from refinery flares and is included as control measure CMB-07 in the 2003 AQMP. There are no components of PAR 1118 which would conflict with, or obstruct, the implementation of the objectives of the 2003 AQMP or CMB-07. Accordingly, the proposed project is expected to contribute to the overall improvement of air

quality in the region and aid the SCAQMD in achieving compliance with the federal and state ambient air quality standards.

b), c) and f) The overall objective of PAR 1118 is to reduce flare emissions at refineries, sulfur recovery plants and hydrogen production plants. PAR 1118 requires no action which would increase emissions and, thus, violate any air quality standards, contribute to an existing or projected air quality violation, or diminish an existing air quality rule or future compliance requirement.

In February 1998 the SCAQMD adopted Rule 1118 which required the affected facilities to monitor the quantity and composition of gases flared in order to improve the flare emissions inventory in the Basin. SCAQMD staff compiled, evaluated and presented the results of the data collected from the affected facilities into a report entitled Evaluation Report on Emissions from Flaring Operations at Refineries. The Report included emissions from flaring events from the fourth quarter of 1999 through the fourth quarter of 2003. The Report recommended amending Rule 1118 in order to require the minimization of flare vent gases, as well as enhancing the monitoring, reporting and emission calculation methodology in order to increase the accuracy of the data collected. PAR 1118 incorporates this recommendation.

Table 2-2 provides a historical overview of the industry-wide flare emissions for the years 2000, 2001 and 2002, which reflects that flare emissions have decreased over time. PAR 1118 will preserve existing reductions and ensure flaring emissions are further reduced.

TABLE 2-2
ANNUAL FLARE EMISSIONS FOR 2000, 2001 AND 2002

Year	NOx		VOC		CO		PM10		SOx	
	tons/yr	tons/day	tons/yr	tons/day	tons/yr	tons/day	tons/yr	tons/day	tons/yr	tons/day
2000	135.95	0.37	125.25	0.34	732.59	2	42.88	0.12	2,633.19	7.21
2001	379.70	1.04	455.82	1.25	2,058.32	5.64	87.08	0.24	1,793.32	5
2002	83.45	0.23	77.82	0.21	450.08	1.23	25.03	0.07	754.21	2.07

Source: Evaluation Report on Emissions from Flaring Operations at Refineries, Appendix A, Table A-1.

The 2003 (most recent) inventory of emissions from flares at the eight affected facilities in the Basin is presented in Table 2-3. The facilities are not identified by name to preserve confidentiality. The emissions inventory presented in Table 2-3 is from the SCAQMD Evaluation Report on Emissions from Flaring Operations at Refineries, dated September 3, 2004. As explained previously, the Report was developed based on flare emissions data submitted to the SCAQMD by the facilities subject to Rule 1118.

TABLE 2-3
FLARE EMISSIONS INVENTORY AS OF FOURTH QUARTER 2003 [(a)]

FACILITY	NOx	VOC	CO	PM10	SOx
A	13.96	12.96	75.93	4.14	121.30
B	0.48	0.67	2.06	0.11	0
C	3.87	3.39	19.82	1.66	23.67
D	3.05	4.79	16.61	0.99	1.02
E	21.78	20.17	118.48	8.44	75.58
F	0.87	0.80	4.71	0.17	0.92
G	0.60	0.56	3.27	0.18	16.13
H	34.38	31.33	182.48	7.64	496.32
Industry-wide annual emissions for 2003 (tons/year)	**79**	**75**	**423**	**23**	**735**
Industry-wide annual emissions for 2003 (tons/day)	**0.22**	**0.21**	**1.2**	**0.06**	**2.0**

[(a)] Source: Evaluation Report on Emissions from Flaring Operations at Refineries, Appendix A, Table A-1. Totals are rounded.

Operational Emissions

The proposed project has no affect on operational emissions other than to reduce emissions from flaring activities. PAR 1118 contains procedural requirements and performance goals intended to reduce these flaring emissions. Operational impacts from implementing the proposed project will be beneficial. It is expected that the baseline emissions (as of fourth quarter 2003) will be reduced by 53~~90~~ percent by 2010. Therefore, it is not anticipated that implementing the proposed project will cause significant adverse air quality impacts.

The emission reductions expected from PAR 1118 are shown in Table 2-4. The assumptions applied to calculate these emission reductions are: (1) emissions are a function of gas flow, and by 2010 gas flows will be reduced through the addition of flare gas recovery systems and FMPs; (2) by 2010, 53~~90~~ percent of the vent gas flow will be captured, treated and sent to a refinery's fuel gas system; (3) by 2012~~0~~ the affected facilities will have met the performance goal of 0.5 ~~one~~ ton ~~per day of~~ SOx per million barrels of crude processing capacity; and (4) the concurrent combustion emissions (e.g. NOx, VOC, CO and PM10) will also be reduced by 53~~90~~ percent.

As reflected previously (Table 1-1), the major sources of flare emissions in 2003 were attributed to non-emergency events. The emergency (recordable events) vent gases were 10 percent of the total, and the non-emergency vent gases were 90 percent. The SCAQMD assumes that by 2010 53 percent of all vent gases, other than gases due to emergency events, maintenance, planned shutdowns, etc., can be controlled. This is the source of the 53~~90~~ percent in emission reductions discussed above.

TABLE 2-4
PAR 1118 EMISSION REDUCTIONS

	Emissions by Pollutant									
	NOx		VOC		CO		PM10		SOx	
	tons/ yr	tons/ day	tons/ yr	tons/ day	tons/ yr	tons/ day	tons/ yr	tons/ day	tons/ yr	tons/ day
Year 2003 Inventory	79	0.22	75	0.2	423	1.16	23	0.06	735	2.0
Emission Reductions	42 ~~71~~	0.12 ~~0.2~~	40 ~~67.5~~	0.11 ~~0.2~~	224 ~~381~~	0.61 ~~1.04~~	12 ~~21~~	0.03 ~~0.06~~	370	1.01
Remaining Emissions Year 2010	37 ~~8~~	0.1 ~~0.02~~	35 ~~7.5~~	0.09 ~~0.02~~	199 ~~42~~	0.55 ~~0.16~~	11 ~~2~~	0.03 ~~0.005~~	365	1.0

Totals rounded

Construction Emissions

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions from heavy-duty construction equipment operation. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust from worker commutes and material delivery trips.

PAR 1118 does not specifically require controls which would trigger construction activities. The proposed amendments do require the affected facilities to reduce flaring events in a variety of ways such as, monitor flare gas flows and measure total sulfur and higher heating value; enhance monitoring and reporting procedures to improve data accuracy; establish performance goals (emission limits) for the years 2006, 2008 and 2010; and prepare a FMP.

~~It is within the FMP requirements in PAR 1118 that owners/operators may include, but are not limited to, [initiate] any optional procedures or modifications such as:~~

- ~~installation of a flare gas recovery system and additional gas treating capacity;~~
- ~~installation of additional flow meters on flare headers;~~
- ~~eliminating or diverting vent gas streams from flare headers;~~
- ~~routing of excess gases to a cogeneration unit;~~
- ~~sale of excess vent gases to another party; and~~
- ~~operator training to increase awareness on flaring.~~

~~These optional procedures/modifications would potentially trigger construction activities.~~

Of the above options, the "worst-case" scenario would be installing a flare gas recovery/ treatment system to reduce flare emissions. As a result, this EA includes the assessment of construction emissions associated with installing a single flare gas recovery/treatment system (see Appendix B for the detailed calculations of construction emissions).

Based on input from refinery operators, the construction scenario assumes three phases: Phase I – Site Preparation; Phase II – Equipment/Materials Delivery; and Phase III – Equipment Installation. The construction activities will be focused primarily above ground, with minimal surface disturbance. Phase I – Site Preparation, represents the peak "worst-case" day for PM10 and SOx construction emissions, based on the finish grading activities. Phase III – Equipment Installation, represents the peak "worst-case day" CO, NOx and VOC construction emissions,

based on the need for onsite construction equipment (e.g. one crane, two forklifts, two welders, two generators), as well as on-road motor vehicles (e.g. 30 construction worker vehicles).

The total emissions in each phase were compared against SCAQMD significance thresholds of 75 lbs/day for VOC, 100 lbs/day of NOx, 550 lbs/day of CO; 150 lbs/day of PM10, and 150 lbs/day of SOx. The results revealed that no criteria pollutant exceeded the SCAQMD significance thresholds in any of the three phases, either individually or in combination with the other phases. Table 2-5 summarizes the construction emissions by phase.

TABLE 2-5
SUMMARY OF CONSTRUCTION EMISSIONS BY PHASE
(pounds per day)

Phase	Construction Phase	CO	NOx	PM10	SOx	VOC
I – Site Preparation	Off-Road Mobile Sources	6.06	16.91	0.89	2.76	1.59
	On-Road Mobile Sources	8.48	5.54	0.9894	0.0486	0.1516
	Fugitive Dust (finish grading)	N/A	N/A	3.3	N/A	N/A
	Total Phase I	**14.5**	**22.45**	**5.18**	**2.80**	**1.74**
II – Equipment/ Materials Delivery	Off-Road Mobile Sources	9	22	1.7	2	2.8
	On-Road Mobile Sources	9.2	4.9	1.1	0.004	0.11
	Total Phase II	**18**	**27**	**3**	**2**	**3**
III – Equipment Installation	Off-Road Mobile Sources	20.5	42	3	2	6.5
	On-Road Mobile Sources	9	1	1	.006	.05
	Total Phase III	**30**	**43**	**4**	**2**	**6.5**

It is not likely that more than two refineries would simultaneously install a flare gas recovery/gas treating system to comply with PAR 1118 for the following reasons:

1. Each of the refineries/facilities is unique and varies in its age, design, operation, product markets, process units, throughput and the way process units are connected to a flare system (e.g. central flare system vs. dedicated flare system). For this reason, the FMPs will be an integral component of PAR 1118 in determining what steps need to be taken for a particular refinery to reduce flare emissions. As a result, owners/operators of affected facilities could comply with PAR 1118 through means other than installing a flare gas recovery system.
2. All of the refineries, except for two, currently have some type of vapor/gas recovery system associated with their flare(s). Most of the refineries would most likely choose to increase their compressor capacity if it is found that their current capacity is insufficient to handle vent gas flows. Increasing compressor capacity would require substantially less construction equipment and workers than installing a gas recovery system.
3. The industry-wide emissions currently meet the performance goals outlined in PAR 1118 for the year 2006. Some refineries have been able to reduce their flare emissions through the use of best management practices.
4. The refineries will most likely conduct any modifications to a flare system during a scheduled turnaround. As a result, it is unlikely that all ~~six~~ seven refineries would schedule turnaround activities to be performed at the same time.

The air quality analysis of both construction and operational emissions concluded that the daily criteria pollutant emission increases associated with the implementation of PAR 1118 are less than the SCAQMD's significance threshold and, therefore, not significant. Since the proposed

project will not result in project-specific significant air quality impacts, the proposed project 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)).

d) The facilities subject to PAR 1118 are located within primarily industrial or commercial areas. The proposed project will not increase the current exposure of nearby sensitive receptors to air contaminants. In fact, since PAR 1118 is intended to reduce emissions from flares it is expected that the proposed project will have a beneficial effect on the surrounding communities and reduce human health impacts. ~~from poor air quality~~.

e) As previously stated, the existing affected facilities are concentrated in a primarily industrial or commercial area. The proposed project will not create new objectionable odors affecting a substantial number of people. PAR 1118 is actually expected to reduce odors within the community as the proposed amendments will reduce emissions, specifically SOx, from flares.

Based on the above discussion, the proposed project will not have a significant adverse impact on air quality. Since no significant adverse impacts are anticipated, no mitigation measures are required.

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

d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☑

BIOLOGICAL RESOURCES DISCUSSION:

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.

a), b), c) & d) Implementing the proposed project will not have a direct impact on candidate, sensitive, or special status species, or the habitat within which they live. PAR 1118 applies to all flares at petroleum refineries, sulfur recovery plants and hydrogen production facilities, which are located within designated industrial/commercial areas devoid of biological resources. Flares are equipment located within the boundaries of these existing affected facilities, and any modifications of equipment or processes will therefore be conducted within the boundaries of an existing facility. Further, these areas do not typically support riparian habitat, federally protected wetlands as defined by §404 of the Clean Water Act, or migratory corridors. Additionally, special status plants, animals, or natural communities 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 are not expected to be found either within the boundaries of affected facilities or in close proximity to the affected facilities.

e) & f) PAR 1118 does not include any components which would conflict with local policies or ordinances protecting biological resources, or conflict with the provisions of any adopted local, regional, or state conservation plans because it will only affect specific equipment within existing facilities located in industrial/commercial areas. Effects outside the boundaries of affected facilities are not anticipated. Further, PAR 1118 will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, as the proposed project will not require any land use changes which would conflict with any local policies protecting biological resources or habitat conservation plans.

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

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

CULTURAL RESOURCES DISCUSSION:

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.

a) – d) PAR 1118 applies to all flares at petroleum refineries, sulfur recovery plants and hydrogen production facilities, which are located within designated industrial/commercial areas devoid of historic, archaeological or paleontological resources. Flares are equipment located within the boundaries of these existing affected facilities. Any construction-related activities associated with PAR 1118 would occur within the boundaries of these existing affected facilities which have been previously disturbed, and predominantly paved or covered with gravel. Further, PAR 1118 is not expected to disturb any human remains for the same reasons stated above.

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

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

ENERGY DISCUSSION:

Significance Criteria

The 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.

a) & e) PAR 1118 does not require any action which would conflict with an adopted energy conservation plan or violation of any energy conservation standard. PAR 1118 applies to all flares at petroleum refineries, sulfur recovery plants and hydrogen production facilities, which are located within designated industrial/commercial areas. Flares are equipment located within the boundaries of these existing affected facilities. The primary effect of PAR 1118 is that emissions from flaring events will be reduced by requiring the minimization of vent/process gases, as well as enhancing the monitoring, reporting and emission calculation methodology in order to increase the accuracy of data collected.

b), c) & d) PAR 1118 is not expected to create any significant adverse effects on peak or base period demands for electricity or other forms of energy, and is not expected to affect an owner or operator's ability to comply with existing energy standards. ~~Further, reducing flaring events will reduce the energy demand of equipment involved in flare events.~~ The elements of PAR 1118 do not include requirements causing a substantial demand for electricity or other form of energy.

The proposed project does not require the construction of any building or structure which would require substantial additional power or natural gas resources. The proposed project may involve however, minor construction activities at two of the affected facilities to add gas recovery and treatment equipment. An increase in energy demand due to new gas recovery/treatment systems would most likely be minimal. The major infrastructure to support this type of equipment is likely already in place at the existing affected facilities. The demand for electric energy

associated with PAR 1118 is not expected to have a significant adverse impact on statewide or even regional energy resources.

The overall changes in the operational management of flares are expected to create little or no increased demand for energy at the affected facilities. ~~Further, the affected facilities may choose to convert vent gases to fuel gas, and use this fuel gas in other areas of the refinery, thereby causing an energy usage benefit.~~

As a result, PAR 1118 is not expected to conflict with energy conservation plans, or result in the need for new or substantially altered power or natural gas systems. Since the proposed project affects existing facilities, it will not conflict with adopted energy conservation plans, as affected facilities would be expected to comply with existing energy conservation plans and standards as a business strategy to minimize operating costs.

Based on the above discussion, the proposed project will not have a significant adverse impact on energy. Since no significant adverse impacts are anticipated, 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:			
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
	• Strong seismic ground shaking?	☐	☐	☑
	• Seismic–related ground failure, including liquefaction?	☐	☐	☑
	• Landslides?	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑

e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☑

GEOLOGY AND SOILS DISCUSSION:

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

a), c) & d) Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code (UBC) Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the UBC as part of the issuance of building permits and can conduct inspections to ensure compliance. The UBC is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage.

The UBC bases seismic design on minimum lateral seismic forces ("ground shaking"). The UBC requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the UBC seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site.

The UBC requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. Thus, any construction-related modifications associated with the proposed project would be required to conform to the UBC and all other applicable state and local codes. Although new equipment may be added to the affect facilities, the construction activities to add the new equipment are expected to be relatively minor. In addition, any new structures would conform to UBC requirements. As a result, PAR 1118 will not alter the exposure of people or property to the risk of loss, injury, or death involving seismic-related activities, including landslides, mudslides, or ground failure.

Subsidence is not anticipated to be a problem since little or no excavation, grading or filling activities will occur at affected facilities. Further, the proposed project does not involve or increase drilling, or removal of underground products (e.g. water, crude oil) that could produce subsidence effects. The affected facilities are not expected to be prone to landslides or have

unique geologic features since these facilities are located in industrial or commercial areas where such features have already been altered or removed.

b) As previously stated, the existing facilities subject to PAR 1118 are located within industrial/commercial areas, on land which has been previously disturbed. There is very little topsoil within these existing facilities, as they are typically paved or covered with gravel in various areas throughout the site. Any construction occurring at affected facilities would occur in flat areas, so soil erosion from runoff would not be a substantial problem. In addition, construction activities would be subject to the soil stabilization requirements of Rule 403 – Fugitive Dust. As a result, loss of topsoil from wind erosion is not anticipated.

e) Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. The proposed project does not include any requirements that generate construction of residential projects in remote areas. PAR 1118 affects existing facilities in industrial/commercial areas. People or property will not be exposed to expansive soils or soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems. Any facility modifications implemented to comply with PAR 1118 would occur at existing facilities where sewerage systems are already connected to local or regional wastewater systems.

Based on the above discussion, the proposed project will not have a significant adverse impact on geology and soils. Since no significant adverse impacts are anticipated, 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?	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	☐	☐	☑
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑

e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

HAZARDS AND HAZARDOUS MATERIALS:

Significance Criteria

The 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.

a) & b) There are no provisions in PAR 1118 that would increase the hazardous materials currently transported, stored, used, or generated by the affected facilities. Implementation of PAR 1118 is not expected to increase any existing hazard that may result from the routine transport, use, or disposal of hazardous materials or that may lead to a reasonably foreseeable accident involving the release of hazardous materials into the environment. Any modifications initiated by the affected facilities to reduce flare emissions will be implemented without impacting operational safety procedures or practices. In fact, the requirement in PAR 1118 for owners/operators to perform a root cause analysis for major flaring events will be a safety benefit and reduce potential hazard impacts at the affected facilities.

c), e) & f) The purpose of PAR 1118 is to reduce flare emissions at existing petroleum refineries, sulfur recovery plants and hydrogen production facilities, which will ultimately improve air quality and reduce adverse human health impacts related to poor air quality. PAR 1118 will be implemented at existing facilities located in industrial/commercial areas, and the proposed project is not expected to increase or create any new hazardous emissions which would adversely affect existing/proposed schools or public/private airports located in close proximity to the affected facilities. Further, controlling emissions from flaring events will reduce criteria

pollutant emissions, thereby providing a benefit to the local surrounding community and the Basin.

d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. It is likely that some of the existing facilities subject to PAR 1118 hold RCRA permits to engage in certain aspects of their operations involving hazardous waste generation. PAR 1118 will not however, alter how affected facilities manage their hazardous waste in any way. Hazardous materials and hazardous waste at affected facilities will continue to be managed in accordance with all applicable federal, state and local rules and regulations regardless of complying with PAR 1118.

g) There are no provisions in PAR 1118 that would increase the hazardous materials currently transported, stored, used, or generated by the affected facilities that would impair implementation of or physically interfere with an adopted or modified emergency response plan or emergency evacuation plan.

California Health & Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency plans generally require the following:

- Identification of individuals responsible for various activities, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Notification procedures (e.g. to local administering and emergency rescue personnel, the state Office of Emergency Services, and facility responders);
- Response procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Evacuation plan procedures;
- Description of emergency equipment onsite and local emergency medical assistance; and
- Training programs for employees.

In general, cities, counties and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to reduce the possibility and effect of fires, explosions, or spills. In conjunction with the state Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for emergency response plans. These requirements, as outlined above, include immediate notification, mitigation of an actual or threatened release of a hazardous materials, and evacuation of the area. PAR 1118 will not alter an affected facility's ability to comply with emergency response regulations or ordinances. The proposed rule amendments focus on reducing flare emissions released into the atmosphere. The proposed rule amendments do not place requirements on the operations at affected facilities which would interfere or conflict with the general purpose of a flare, that of a safety relief valve for the facility.

h) The proposed rule amendments will be implemented at existing affected facilities located in industrial/commercial areas devoid of wildlands. Further, the proposed project will affect existing facilities, and there are no risks associated with wildland fires at these existing facilities. As a result, it is highly unlikely that any of the affected facilities will experience a significant risk of loss, injury or death attributed to wildland fires in the course of implementing PAR 1118.

i) In general, flares are considered to be safety devices that combust vent gases in the event of an emergency. PAR 1118 would prohibit the flaring of vent gases except during emergencies, shutdowns/startups and essential operational needs. PAR 1118 has the potential to further

improve safety at affected facilities by requiring a root cause analysis for major flaring events, which will further reduce flaring events in the future. Further, existing emergency planning adequately minimizes the current risks at the affected facilities. Local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset hazards. Implementation of PAR 1118 will not affect these permit conditions.

The Uniform Fire Code and the UBC set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies typically require permits for the use or storage of hazardous materials and permit modifications would be required for any proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make periodic business inspections to ensure compliance with permit conditions and other appropriate regulations.

All hazardous materials are expected to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. When taken together, the above regulations provide comprehensive measures to reduce hazards, if any, of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and proper operation and maintenance of equipment should ensure that the potential for explosions or accidental releases of hazardous materials will remain significant.

Based on the above discussion, the proposed project will not have a significant adverse impact on hazards and hazardous materials. Since no significant adverse impacts are anticipated, no mitigation measures are required.

		Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑

c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☑
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flaws?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑

n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

HYDROLOGY AND WATER QUALITY DISCUSSION:

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.

a), f) & k) PAR 1118 has little or no direct or indirect affects on existing water or wastewater quality at affected facilities. The proposed project requires affected facilities to reduce emissions from flaring events. Flare emissions and activities associated with flaring are not water intensive activities. Any modifications to process units, PRDs or gas recovery systems to reduce flare emissions will not affect existing water or wastewater quality standards. PAR 1118 does not include any provisions which would result in a violation of water quality standards, wastewater treatment requirements, or otherwise substantially degrade water quality. It is assumed that any affected facilities that current generate wastewater and are subject to waste discharge or pretreatment requirements currently comply with and will continue to comply with all relevant wastewater requirements, waste discharge regulations, stormwater runoff standards, and any other relevant requirements for direct discharges into sewer systems or from the site. Although not anticipated, should the volume or discharge limits change as a result of implementing the proposed project, the affected facilities would be required to consult with the appropriate regional water quality control board and/or the local sanitation district to discuss these changes.

b) The purpose of PAR 1118 is to improve air quality by reducing emissions from flares. The flare reduction options identified in PAR 1118 do not require the direct or indirect use of groundwater and, as a result, are not expected to groundwater supplies, influence groundwater quality, or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or the lowering of the local groundwater table level. Further, implementation of PAR 1118 would not increase the demand for groundwater from any existing entitlements or resources, thereby requiring new or expanded entitlements.

c), d) & e) PAR 1118 requires the reduction of emissions from flare events. Implementation of PAR 1118 will occur at existing facilities located in industrial/commercial areas that are paved or covered with gravel, and the drainage infrastructures are already in place. The proposed project is not expected to substantially alter existing drainage patterns or infrastructure and, therefore will not affect surface runoff. The proposed project will not require the alteration of any stream or river, thereby increasing erosion or siltation offsite, increasing surface runoff (resulting in flooding), or exceed the capacity of stormwater drainage systems.

g), h), i) & j) The proposed project does not require the construction of any new housing, relocation of existing homes, or the siting of any new facilities within a 100-year flood hazard area. PAR 1118 applies to flare emissions at existing petroleum refineries, sulfur recovery plants and hydrogen production facilities, which are located within designated industrial or commercial areas. Since no structures will be constructed, or relocated, within a 100-year flood area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map, it is not expected that PAR 1118 will expose people or structures to significant new flooding risks. Further, the proposed amendments to Rule 1118 will not alter the existing setting to the extent that the affected facilities will be subject to a greater potential for flood hazards such as inundation by seiche, tsunami, mud flow, or failure of a levee or dam.

l), m), n) & o) The proposed project reduces emissions from flares, which is not expected to increase the demand for water or the amount of wastewater generated by affected facilities. Although PAR 1118 may require minor construction activities at affected facilities, PAR 1118 will not affect existing stormwater drainage infrastructure, or cause new stormwater drainage systems to be constructed within existing affected facilities.

Based on the above discussion, the proposed project will not have a significant adverse impact on hydrology and water quality. Since no significant adverse impacts are anticipated, no mitigation measures are required.

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

c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

LAND USE AND PLANNING DISCUSSION:

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.

a) – c) Since PAR 1118 affects existing facilities within industrial/commercial areas, and any modifications would occur entirely within the boundaries of these affected facilities, the proposed project will not physically divide an established community.

There are no provisions of PAR 1118 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by reducing flare emissions at petroleum refineries, sulfur recovery plants and hydrogen production plants.

PAR 1118 will regulate flare emissions from affected existing facilities and will not in any way affect habitat conservation, natural community conservation plans, or agricultural resources or operations.

Based on the above discussion, the proposed project will not have a significant adverse impact on land use and planning. Since no significant adverse impacts are anticipated, no mitigation measures are required.

		Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☑

MINERAL RESOURCES DISCUSSION:

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.

a) & b) There are no provisions in PAR 1118 that would result in the loss of, or availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineate on a local general plan, specific plan or other land use plan. The facilities affected by PAR 1118 are located within industrial/commercial areas, and flares are located within the boundaries of these existing facilities. Any modifications to flare systems will be conducted within the boundaries of these existing facilities, and within locations which have been previously disturbed and predominantly paved.

Examples of mineral resources commonly used for construction activities include gravel, asphalt, bauxite, and gypsum. The expected options for compliance with PAR 1118 do not include the use of any of these materials. Therefore, no new demand on mineral resources is expected to occur as a result of implementing PAR 1118.

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

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:			
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

NOISE DISCUSSION:

Significance Criteria

Impacts on noise will be considered significant if:

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

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

The State Department of Aeronautics and the California Commission of Housing and Community Development have adopted the Community Noise Equivalent Level (CNEL). The CNEL is the adjusted noise exposure level for a 24-hour day and accounts for noise source, distance, duration, single event occurrence frequency, and time of day. The CNEL considers a weighted average noise level for the evening hours, from 7:00 p.m. to 10:00 p.m., increased by five dBA, and the late evening and morning hour noise levels from 10:00 p.m. to 7:00 a.m., increase by 10 dBA. The daytime noise levels are combined with these weighted levels and averaged to obtain a CNEL value. The adjustment accounts for the lower tolerance of people to noise during the evening and nighttime hours relative to the daytime hours.

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.

Modifications or changes associated with the implementation of PAR 1118 will take place at existing facilities that are located in industrial/commercial settings. The existing noise environment at each of the affected facilities is dominated by heavy equipment, vehicular and truck traffic in and around the facility, and process equipment/machinery. Any equipment installed to comply with PAR 1118 is not expected to produce noise in excess of current operations at each of the affected facilities and the day-to-day operations associated with complying with PAR 1118 are not expected to add new sources of noise or vibration to any affected facility. Further, by prohibiting non-emergency flaring events, PAR 1118 could produce noise reduction benefits by eliminating noise associated with flare events. It is expected

that all affected facilities currently comply with existing noise laws and ordinances, specifically Occupational Safety and Health Administration (OSHA) noise standards to protect worker health.

e) & f) The facilities affected by PAR 1118 are not located within an airport land use plan, or in the vicinity of a public airport, public use airport or private airstrip. Further, the proposed project is not expected to produce noise that exceeds existing noise levels in the area or expose people residing or working in the area to excessive noise levels.

In general, the proposed project affects existing facilities and will not generate excessive noise levels outside the boundaries of the affected facility. Further, given ambient noise levels near affected facilities, noise attenuation (the lowering of noise levels over distances), and compliance with local noise ordinances, potential noise impacts are not expected to be significant.

Based on the above discussion, the proposed project will not have a significant adverse impact on noise. Since no significant adverse impacts are anticipated, 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)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

POPULATION AND HOUSING DISCUSSION:

Significance Criteria

The 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.

a) – c) The proposed project will not require any actions which will, either directly or indirectly, induce growth or adversely affect the district's population or population distribution. In the event that some construction may be necessary to comply with PAR 1118, it is anticipated that construction workers can be drawn from the existing local labor pool. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of PAR 1118.

Further, because the proposed project affects existing facilities in industrial/commercial areas, it is not expected to result in the creation of an industry that would affect population growth, directly or indirectly induce the construction of housing units, or require the displacement of people or housing to elsewhere in the district.

Based on the above discussion, the proposed project will not have a significant adverse impact on population and housing. Since no significant adverse impacts are anticipated, no mitigation measures are required.

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

PUBLIC SERVICES DISCUSSION:

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.

a) – b) The proposed project does not require any action which would alter and, thereby, adversely affect existing public services, or require an increase in governmental facilities or services to support the affected facilities. PAR 1118 applies to gas flares at existing petroleum refineries, sulfur recovery plants and hydrogen production facilities. These affected facilities are typically located within industrial/commercial areas, and the flares are located within the boundaries of these affected facilities. Since PAR 1118 does not increase the transport, storage, use, or generation of hazardous materials/waste, there is no potential for an increase in the probability of an accidental release that would require emergency response by local city of county hazmat personnel, fire departments, or police departments. Indeed, provisions in PAR 1118 that prohibit non-emergency flare events and root cause analyses in response to certain

flare events is expected to provide safety benefits at affected facilities. As a result, current fire, police and emergency services are adequate to serve existing operations, and 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.

c) – e) As previously mentioned, the proposed project will not directly or indirectly induce population growth in the local area. The proposed project requires operational changes to existing affected facilities relative to flaring events. As such, PAR 1118 will not result in substantial adverse physical impacts on schools, parks or other public facilities, or create the need for new additional schools, parks or other public facilities.

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

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

RECREATION DISCUSSION:

Significance Criteria

The 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 affects existing recreational opportunities.

a) & b) PAR 1118 does not require any action which will promote or alter existing population growth or densities in the district. Further, there are no provisions of the proposed project that would directly or indirectly affect any land use plans, policies or ordinances or regulations. As a result, no provisions of the proposed project would either directly, or indirectly, cause an increase in the district's population that could increase the use of neighborhood/regional parks or recreational facilities, thereby causing any accelerated deterioration. Further, the proposed project will not involve the use of recreational facilities or require the construction of new, or expansion of existing, recreational facilities to the detriment of the environment.

Based on the above discussion, the proposed project will not have a significant adverse impact on recreation. Since no significant adverse impacts are anticipated, no mitigation measures are required.

		Potentially	Less Than	No Impact

	Significant Impact	Significant Impact	
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

SOLID/HAZARDOUS WASTE:

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.

a) & b) PAR 1118 will reduce flare emissions at refineries, sulfur recovery plants and hydrogen production plants. There are no provisions of the proposed project which would alter the current generation or disposal of solid/hazardous waste at the facilities affected by PAR 1118. Limiting flare events to emergency situations does not generate wastes of any kind. Since no additional non-hazardous solid waste will be generated, no significant adverse impacts to landfill capacity or solid waste disposal are expected from PAR 1118. Further, PAR 1118 does not include or affect any requirements that would generate, store, transport or dispose of hazardous waste and, therefore, will not pose a hazardous waste impact. Owners/operators of affected facilities will continue to manage their existing solid and hazardous waste practices and procedures in accordance with federal, state and local regulations.

Based on the above discussion, the proposed project will not have a significant adverse impact on solid/hazardous waste. Since no significant adverse impacts are anticipated, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☑

b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

TRANSPORTATION/TRAFFIC:

Significance Criteria

The 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 (e.g., 350 heavy-duty truck round-trips per day) that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

a) & b)

Operational Transportation-Related Emissions

Since PAR 1118 focuses on reducing emissions from flares at existing facilities, within the boundaries of these facilities, the proposed project is not expected to adversely affect existing traffic levels, or exceed the level of service standards on roadways or at intersections in the vicinity of the affected existing facilities. Further, the proposed project will not require the hiring of additional full-time permanent employees, which would increase daily vehicle commuter trips to and from the affected facilities. As a result, no additional operational-related trips are anticipated. Therefore, since no additional operational-related trips are anticipated, the implementation of PAR 1118 is not expected to significantly adversely affect, either individually

or cumulatively, circulation patterns on local roadways or the level of service at intersections near affected facilities.

Construction Transportation-Related Emissions

Under the worst-case construction scenario (as discussed in the Air Quality Section of this EA and Appendix B), traffic in and around affected facilities may increase, but not substantially. The potential construction scenario consists of three phases: Phase I – Site Preparation; Phase II – Equipment/Materials Delivery; and Phase III – Equipment Installation. During the peak construction day of each phase, there will be a traffic increase of 44 trips per day in Phase I; 46 trips per day in Phase II; and 60 trips per day in Phase III. No increase in heavy-duty truck traffic to and/or from the facility by more than the SCAQMD significance threshold of 350 truck round trips per day is expected. Further, it is unlikely that all six affected facilities will engage in construction activities concurrently, thereby affecting the level of service (or volume-to-capacity ratio) at any single intersection at the same time. The reason for this assertion is that the construction analysis is a "worst-case" analysis in which it is assumed that a gas recovery/treatment system will be installed. This assumption over-estimates potential construction impacts because most affected facilities already have some type of gas recovery system in place. Therefore, because the number of construction vehicle trips per construction phase (and in total) is so low, the proposed project is not expected to impact the existing traffic load and capacity of the street system, or exceed the level of service standard established by the county congestion management agency for designated roads or highways.

c) PAR 1118 has no requirements that influence or affect air traffic patterns. The proposed project would affect existing flaring operations; however, the existing height and general appearance of the flares will not change. Further, no new flares, buildings or structures that could alter or affect air traffic patterns are expected to be constructed as a result of PAR 1118. Any modifications to flaring operations as a result of PAR 1118 would occur at ground level and would not affect air traffic patterns, require transport of any materials by plane, or result in a substantial safety risk to air traffic.

d), e), f) & g) As previously stated, the proposed project affects flaring operations at existing facilities in industrial/commercial areas, prohibiting flare events in non-emergency situations. There are no components of PAR 1118 which require construction of roadways that could include transportation design features, sharp curves, dangerous intersections or incompatible uses on local streets and highways. Any modifications to flaring operations to comply with PAR 1118 will occur within the boundaries of the affected existing facilities. Further, the proposed project does not include any components which would affect existing emergency access, parking capacity or any adopted policies, plans or programs regarding alternative transportation.

The analysis of both construction and operational traffic concluded that the daily vehicle trips associated with the implementation of the proposed project are less than the SCAQMD's significance threshold and, therefore, not significant.

Based on the above discussion, the proposed project will not have a significant adverse impact on transportation/traffic. Since no significant adverse impacts are anticipated, no mitigation measures are required.

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

DISCUSSION OF MANDATORY FINDINGS OF SIGNIFICANCE:

a) As discussed in the "Biological Resources" section, PAR 1118 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the regulated flaring operations are located entirely within the boundaries of existing facilities in industrial or commercial areas which have already been greatly disturbed and that currently do not support animal species or the habitats on which they rely. Additionally, special status plants, animals, or natural communities are not generally found within close proximity to commercial or industrial areas, which is where the existing facilities affected by PAR 1118 are located.

b) Based on the foregoing analyses, since PAR 1118 will not result in significant adverse project-specific environmental 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. Furthermore, potential adverse impacts from implementing PAR 1118 will not be "cumulatively considerable" because there are no, or only minor incremental impacts and there will be no contribution to a significant cumulative impact caused by other projects that would exist in absence of the proposed project. Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by the proposed project.

c) Based on the foregoing analyses, PAR 1118 is not expected to cause adverse effects on human beings. Significant adverse air quality, energy, hazards and hazardous materials, hydrology and water quality, solid/hazardous waste, and transportation/traffic are not expected from the implementation of PAR 1118. The direct impact from the proposed project, however, is a reduction in flare emissions released into the atmosphere. Reducing flare emissions is expected to positively affect human health by reducing population exposure to air pollutants in the district. No impacts to aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, land use/planning, mineral resources, noise, population and housing, public services, and recreation are expected as a result of the implementation of PAR 1118.

A P P E N D I X A

DRAFT
PROPOSED AMENDED RULE 1118

In order to save space and avoid repetition, please refer to the latest version of the proposed amended Rule 1118 located elsewhere in the final rule package. The version of the proposed amended rule circulated with the Draft EA was released for a 30-day public review and comment period on June 30, 2005 ending July 29, 2005.

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

APPENDIX B

CONSTRUCTION EMISSIONS

CALCULATIONS AND ASSUMPTIONS USED FOR DETERMINING POTENTIAL CONSTRUCTION EMISSIONS ASSOCIATED WITH THE INSTALLATION OF A SINGLE GAS RECOVERY/TREATMENT SYSTEM

PAR 1118 is intended to reduce emissions, specifically sulfur dioxide, from flares at petroleum refineries, sulfur recovery plants and hydrogen production plants. There are eight facilities and 27 flares in the Basin affected by PAR 1118. Flare use, and the type of flare, varies from facility to facility.

To evaluate a potential "worst-case" scenario in accordance with CEQA, the SCAQMD has calculated emissions from the possible construction of a single gas recovery and treatment system. It should be noted that not all of the affected facilities would determine that it would be necessary to install a flare gas recovery/treatment system. All of the facilities, except for three ~~two~~, currently have varying degrees of gas recovery associated with their flare system.

As a result, this appendix outlines the construction emissions associated with installing a flare gas recovery/treatment system based on the following assumptions.

General Assumptions (apply to all three phases)

1. The construction schedule would be two months; 10 hours a day, five days a week, from 7:00 am to 5:00 pm.
2. Construction activities will occur in three phases: Phase I – Site Preparation; Phase II – Equipment/Materials Delivery; and Phase III – Equipment Installation.
3. Construction phases will not overlap.
4. Construction activities are focused primarily above ground, with minimal surface disturbance.
5. Assumptions regarding number of construction workers, number of worker vehicles, and round trip mileage per day per worker are outlined in the footnotes after each appropriate table.

TABLE B-1
SUMMARY OF CONSTRUCTION EMISSIONS BY PHASE
(pounds per day)

Phase	Construction Phase	CO	NOx	PM10	SOx	VOC
I – Site Preparation	Off-Road Mobile Sources	6.06	16.91	0.89	2.76	1.59
	On-Road Mobile Sources	8.48	5.54	0.9894	0.0486	0.1516
	Fugitive Dust (finish grading)	N/A	N/A	3.3	N/A	N/A
	Total Phase I	**14.5**	**22.45**	**5.18**	**2.80**	**1.74**
II – Equipment/ Materials Delivery	Off-Road Mobile Sources	9	22	1.7	2	2.8
	On-Road Mobile Sources	9.2	4.9	1.1	0.004	0.11
	Total Phase II	**18**	**27**	**3**	**2**	**3**
III – Equipment Installation	Off-Road Mobile Sources	20.5	42	3	2	6.5
	On-Road Mobile Sources	9	1	1	.006	.05
	Total Phase III	**30**	**43**	**4**	**2**	**6.5**

TABLE B-2
OFF-ROAD MOBILE SOURCE EMISSION FACTORS
(pounds per hour)

	CO	NOx	PM10	SOx	VOC
Off-road Mobile Sources					
Crane	0.368	1.157	0.059	0.196	0.102
Forklift	0.268	0.508	0.054	0	0.09
Welder	0.236	0.333	0.035	0	0.084
Generator	0.338	0.699	0.051	0.001	0.101
Grader	0.567	1.623	0.084	0.276	0.148
Cement mixer	0.039	0.068	0.005	0	0.011

Source: Emission factors derived from CARB's off-road model (composite data provided to SCAQMD August 2004), scenario year 2005. The composite was based on equipment category, average fleet make-up for each year through 2020, and vehicle population in each equipment category by horsepower rating and load factor.

TABLE B-3
ON-ROAD MOBILE SOURCE EMISSION FACTORS
(pounds per mile)

	CO	NOx	PM10	SOx	VOC
On-road Mobile Sources					
Worker commute trips [(1)]	0.015165	0.001634	0.001626	0.00001	0.000079
Delivery trucks [(2)]	0.020984	0.028142	0.002955	0.000246	0.000500
Cement Mixer [truck] [(3)]	0.00630818	0.04154091	0.00077365	0.00040383	0.00140276

Source: Emission factors were derived from EMFAC 2002 (version 2.2) Burden Model for on-road vehicles, scenario year 2005:

(1) Passenger vehicles (composite emission factor).
(2) Delivery trucks (composite emission factor)
(3) Heavy-heavy duty diesel trucks.

TABLE B-4
SCAQMD SIGNIFICANCE THRESHOLDS FOR
CONSTRUCTION ACTIVITIES
(pounds per day)

CO	NOx	PM10	SOx	VOC
550	100	150	150	75

Phase I Assumptions

1. The cement mixer [truck] contributes to both off-road mobile sources (e.g. idling while mixing cement), and on-road mobile sources (e.g. traveling 25 miles one-way on the roadway).
2. Twenty workers will travel approximately 10 miles one-way to and from the construction site.
3. Emissions are calculated based on a 10-hour workday.
4. Because affected facilities include existing facilities, it is assumed that the site is relatively flat and paved, and only requires finish grading for a concrete pad.
5. Approximately 0.25 acre would be required for the gas recovery/treatment system.
6. Watering will be required in order to comply with SCAQMD Rule 403 for controlling fugitive dust. Due to space constraints, it is assumed that two pick-up trucks (using the delivery truck emission factor) pulling a portable water tank on a trailer with a hose attachment will be used during finish grading. Limited space would prohibit the use and maneuverability of a water truck on the site.

TABLE B-5
PEAK DAILY CONSTRUCTION EMISSIONS
PHASE 1 – SITE PREPARATION
(pounds per day)

	CO	NOx	PM10	SOx	VOC
Off-road Mobile Sources [(a)]					
One Grader	5.67	16.23	0.84	2.76	1.48
One cement mixer [truck]	0.39	0.68	0.05	0	0.11
On-road Mobile Sources					
Worker commute trips (20 workers) [(b)]	6.066	0.6536	0.6504	0.004	0.0316
Two pickup trucks with portable water tank [(c)]	2.10	2.81	0.30	0.0246	0.05
One cement mixer [truck] [(d)]	0.315	2.077	0.039	0.020	0.070
Other [(e)]					
Finish grading (fugitive dust)	N/A	N/A	3.3	N/A	N/A
Total Phase 1 Construction Emissions [(f)]	**14.5**	**22.45**	**5.18**	**2.80**	**1.74**
SCAQMD Significance Threshold	**550**	**100**	**150**	**150**	**75**
Is the Significance Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

(a) Emission factor x 10 hours of construction.
(b) # of trips x trip length x emission factor (40 trips x 10 miles x emission factor)
(c) # of trips x # of trucks x trip length x emission factor (2 trips x 2 trucks x 25 miles x emission factor)
(d) # of trips x trip length x emission factor (2 trips x 25 miles x emission factor)
(e) To calculate these fugitive dust emissions: multiply the acreage assumption of 0.25 acre x 26.4 pounds per day per acre (PM10 emission factor from SCAQMD CEQA handbook Table A9-9) x 0.5 (control efficiency for watering to comply with SCAQMD Rule 403) = pounds per day of fugitive dust.
(f) Totals rounded.

Phase II Assumptions

1. Thirty workers will travel approximately 10 miles one-way to and from the construction site.
2. Emissions are calculated based on a 10-hour work-day.
3. Three delivery trucks will travel 25 miles one-way to and from the construction site.

TABLE B-6
PEAK DAILY CONSTRUCTION EMISSIONS
PHASE 2 – EQUIPMENT/MATERIALS DELIVERY

	CO	NOx	PM10	SOx	VOC
Off-road Mobile Sources [(a)]					
One crane	3.68	11.57	0.59	1.96	1.02
Two forklifts	5.36	10.16	1.08	0	1.8
On-road Mobile Sources [(b)]					
Worker commute trips (20 workers) [(c)]	6.066	0.6536	0.6504	0.004	0.0316
Three delivery trucks [(d)]	3.1476	4.2213	0.44325	0.0369	0.075
Total Phase 2 Construction Emissions [(e)]	**18**	**27**	**3**	**2**	**3**
SCAQMD Significance Threshold	**550**	**100**	**150**	**150**	**75**
Is the Significance Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

(a) Emission factor x 10 hours of construction.
(b) # of trips x trip length x emission factor.
(c) 40 trips x 10 miles x emission factor.
(d) Six trips x 25 miles x emission factor.
(e) Totals rounded

Phase III Assumptions

1. Thirty workers will travel approximately 10 miles one-way to and from the construction site.
2. Emissions are calculated based on a 10-hour work-day.

TABLE B-7
PEAK DAILY CONSTRUCTION EMISSIONS
PHASE 3 – EQUIPMENT INSTALLATION

	CO	NOx	PM10	SOx	VOC
Off-road Mobile Sources [(a)]					
One crane	3.68	11.57	0.59	1.96	1.02
Two forklifts	5.36	10.16	1.08	0	1.8
Two welders	4.72	6.66	0.7	0	1.68
Two generators	6.76	13.98	1.02	0.02	2.02
On-road Mobile Sources [(b)]					
Worker commute trips (30 workers)	9.099	0.9804	0.9756	0.006	0.0474
Total Phase 3 Construction Emissions [(c)]	**30**	**43**	**4**	**2**	**7**
SCAQMD Significance Threshold	**550**	**100**	**150**	**150**	**75**
Is the Significance Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**

(a) Emission factor x 10 hours of construction.
(b) # of trips x trip length x emission factor (60 trips x 10 miles x emission factor)
(c) Totals rounded.

APPENDIX C

RESPONSES ON COMMENTS RECEIVED ON THE DRAFT EA

WSPA

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Via E-Mail and First Class Mail

July 29, 2005

Kathy C. Stevens
CEQA Section – Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765-4182

Dear Ms. Stevens:

WSPA COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR PAR 1118

1-1 The Western States Petroleum Association ("WSPA") is a trade association that represents approximately thirty companies that conduct most of the petroleum-related operations in California and the surrounding states. Six current WSPA-member companies operate petroleum refineries in the South Coast Air Basin. Thus, WSPA and its member companies have a direct and substantial interest in the proposed amendments to Rule 1118, Control of Emissions from Refinery Flares ("PAR 1118"), and will be significantly impacted by the rule.

1-2 WSPA submitted comments on the Proposed Amended Rule and the Preliminary Draft Staff Report on July 8th, and we would respectfully request that those comments be incorporated herein by reference. In submitting these comments on the Draft Environmental Assessment ("Draft EA"), WSPA incorporates by reference all of its previous correspondence to the District concerning this rule, this rulemaking process, the Evaluation Report on Emissions from Flaring Operations at Refineries (September 3, 2004), and the 2003 AQMP Control Measure CMB-07. WSPA requests that the District carefully consider these comments, along with WSPA's previous correspondences, before making a final decision on whether to adopt the EA and PAR 1118.

1-3 WSPA also reserves the right, as permitted under the California Environmental Quality Act ("CEQA"), upon further review of the EA and/or a revised draft of a proposed amended rule, to submit additional and supplemental comments regarding the potentially significant adverse environmental impacts of PAR 1118 and the adequacy of the EA's analysis of these impacts, before or at the PAR 1118 public hearing. (*See* Public Resources Code § 21177).

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1-4 WSPA appreciates this opportunity to comment on the Draft EA for PAR 1118. Our comments, which follow, are in the same order as the issue appears in the Draft EA. Some comments are applicable to more than one section of the report. These comments focus mainly on flare-related SOx emissions because SOx reductions were the primary goal of 2003 AQMP Control Measure CMB-07, and SOx is the focus of the proposed rule.

Introduction (page 1-1).

1-5 The second paragraph can be read to imply that the proposed rule will provide for the emissions reductions that were sought by the Governing Board. WSPA suggests that it would be appropriate to acknowledge (as is recognized on page 1-4) that reported refinery flare-related SOx emissions have already decreased by over eighty percent, from the start of monitoring under Rule 1118, to CY 2004. Further, because of the significant level of reductions already achieved on a self-motivated basis by the affected facilities, there are few, if any, actual emission reductions provided by PAR 1118.

California Environmental Quality Act (page 1-2).

1-6 The analysis in Chapter 2 has not considered all of the potential physical changes that might result from the proposed project. Please refer to our comments on Chapter 2, below.

Project Objective (page 1-3).

It is not accurate to claim that emissions reductions will be achieved by a combination of a prohibition of flaring except during emergencies, etc., and the establishment of industry-wide performance goals.

1-7 As stated above, reported emission reductions of over eighty percent have already been achieved. Emission levels for CY 2004 were down to 1.2 tons SOx per day, average – a level that already exceeds the target (and the timing) of the AQMP measure. It is WSPA's understanding that staff expects a further reduction of 0.4 tons SOx per day, average, due to the voluntary installation of flare gas recovery capacity at two refineries. However, no emissions reductions are actually attributed to the requirements of the rule, per se.

Staff has, on numerous occasions, emphasized the need to avoid any regulatory requirement that could potentially compromise the continued safe operation of the refineries in the basin. This is an important principle that needs to be included in the statement of the project objective.

Background (page 1-3).

1-8 The statement of the background refers to the District's September 2004 Evaluation Report, and, although the statements regarding emissions reductions and the causes of flaring seem to correctly reflect the report, the District must base its current conclusions and recommendations on the latest and best available data – data for CY 2004. WSPA notes that CEQA requires the use of an emissions baseline, for impacts analyses, that is consistent with the time that the Notice of Preparation was issued – this reinforces our concern regarding the inappropriateness of using data from CY 2003. WSPA also notes that flare emissions data for CY 2004 has been in the District's possession for several months.

Table 1-1 (page 1-4).

We have several comments regarding the data in the table and the discussion in the paragraph that follows it.

- The data in Table 1-1 shows that only 2.9 percent of the flaring during CY 2003 – down from 35 percent[1] – could not be identified with respect to its cause. Therefore, the statement in the paragraph following Table 1-1, that affected facilities should "… focus on methods best suited to their operations to identify the cause of the unknown flare events …" is simply not applicable. The refineries have already achieved a high, 97 percent level of causal identification.
- 1-9 The CY 2003 data in Table 1-1 regarding recordable, non-emergency flaring events, which were due to a combination of maintenance, startup/shutdown, and turnarounds, attribute virtually one-third of flaring to these causes. These are precisely the causes of flaring, which, together with emergencies and essential operational needs, would be exempted from the proposed rule. Although the discussion in the paragraph that follows the Table states the District's belief that flaring due to these causes can be minimized, the assumed ninety-percent reduction of non-SOx emissions (as claimed in other sections of the EA) is wildly optimistic, completely unsupported, and simply unachievable.
- Flaring from refinery fuel gas systems accounted for a reported 6.28 percent of the flaring in CY 2003. WSPA continues to be concerned over the District's apparent misconceptions regarding refinery fuel gas systems and the occasional – and unavoidable – need to send excess fuel gas to the flares. Our broader comments about the flaring of excess fuel gas are stated below.

Regulatory Overview (page 1-4).

1-10 1. The statement is made (on page 1-5) that, "… fuel gas emissions are not counted toward RECLAIM allocations when fuel gas is burned in flares …" Although this statement is essentially correct, the facts regarding refinery fuel gas systems are complex, and warrant some discussion:

[1] 4th Quarter 1999 to 4th Quarter 2003, as shown in Table 1, page 10, of the Evaluation Report.

1-10 cont.

- Refineries and refinery processes are purposefully designed to have their fuel gas systems in balance – that is, fuel gas is consumed by process heaters and boilers at the same rate that it is produced in the various process units.
- An overall refinery fuel gas system balance generally comprehends a need to purchase some natural gas whenever fuel gas use exceeds the rate at which it is produced. There are fewer options for the temporary situations where a refinery produces more fuel gas than is being consumed, and that is why the occurrence of these situations are minimized and they are kept as brief as possible.
- When a fuel gas user (e.g., a process heater, or a boiler) is shut down, there is an inevitable rise of pressure in the fuel gas system because of the sudden reduction in fuel gas demand. The larger the fuel gas user, the more pronounced the pressure increase will likely be. The excess pressure in the fuel gas system will almost always have to be alleviated by venting some fuel gas to the flare. However, the venting will only need to last for the length of time required to rebalance or readjust the fuel system. The concept of potentially recovering the vent gas is, obviously, not applicable because the fuel gas system had excess supply to begin with (i.e., that was the reason for the venting).
- Because the recovery and use of vent gas, which originated with the fuel gas system, back into the fuel system is an impossibility, there is probably only one alternate approach – construct a gas-holder. A gas-holder is a large tank-like container in which gas is stored near normal pressure and temperature. The storage volume of the gas-holder is variable – it corresponds to the quantity of stored gas – the pressure comes from the weight of the movable roof or "cap". Typical storage volumes for big gas-holders are about 50,000 m^3, with 60 m diameter structures. As such, constructing gas-holders to store refinery fuel gas on a short-term basis would be completely impractical, infeasible, and non-cost-effective.
- Refinery fuel gas is a valuable commodity, and it is not burned in a flare as a matter of convenience. Contrary to the staff assertion during the discussion of the flare rule at the September 2004 Board meeting, refineries do not seek to avoid a debit to their respective RECLAIM allocations by burning fuel gas in a flare as opposed to burning it in a combustion device such as a heater or boiler.
- Refinery fuel gas must meet the sulfur content limits of SCAQMD Rule 431.1. Therefore, when fuel gas might be directed to a flare, the resulting emissions are low.

2. Flares are described as air pollution control systems. WSPA agrees. Flares efficiently destroy materials that might otherwise be released directly to the atmosphere.

3. The Draft EA also states that the construction of new flares would be subject to BACT requirements. WSPA believes that it would be unfortunate for a reader of the EA to assume that existing refinery flares do not meet BACT requirements. Further, as a practical matter, there are no known[2] SCAQMD BACT requirements for refinery flares.

[2] A search of the SCAQMD Major Source LAER/BACT determinations and also the ARB's BACT Clearinghouse

4. The Draft EA correctly states that refinery flares are also subject to SCAQMD Rule 401, Visible Emissions. This being the case, it is also true that the proposed requirements of PAR 1118, with respect to visible emissions (1118(c)(1)(B)), constitute double-jeopardy. WSPA objects to the visible emissions requirements of PAR 1118 because they are unnecessary and duplicative of an existing SCAQMD rule.

1-10 cont.

5. The Draft EA also references US-EPA New Source Performance Standards (NSPS) requirements at 40 CFR 60.18 (Subpart A, General Control Device Requirements), but fails to mention that these standards do not apply to all refinery flares. These particular requirements only apply to flares constructed or modified after January 21, 1986.

Project Description (page 1-5).

As stated above, WSPA has submitted comments on both the Proposed Amended Rule and the Preliminary Draft Staff Report. Again, we would respectfully request that those comments be incorporated herein by reference.

One of the six "optional procedures or modifications" listed under PAR 1118(e), Flare Management Plan Requirements, is "sales of excess vent gases to another party". Although one or more refineries may have the existing infrastructure and capability of selling so-called excess vent gases to a customer, this option is largely infeasible for the other affected facilities. As a practical matter, there are three major obstacles that would have to be overcome before a refinery would be able to deliver excess fuel gas to a customer:

1-11

1. The refinery has to have a potential customer. The likely customer for excess refinery fuel gas would be a large industrial user of natural gas who would be able to substitute the refinery fuel gas for some of their purchased natural gas. The typical customer would be an electric utility but, realistically, there are not a large number of these in reasonable proximity to the refineries.

2. The refinery has to have a means of delivering the gas – that is, they must have a pipeline of adequate capacity and rating between the refinery and the customer. Where such pipelines do not exist, the multiple difficulties of laying one effectively precludes this option.

However, WSPA believes that, because gas sales are listed as an option (PAR 1118(e)(2)(E)), the Draft EA needs to address the issues related to the construction of such pipelines. Another option [listed at PAR 1118(e)(2)(D)] is "Routing of excess gases to a cogeneration unit". WSPA believes that the issues involved with both of these listed options need to be fully addressed in the Draft EA; we believe that it would be improper to propose to wait to address these potential

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did not result in any references to refinery flares.

issues until the permit review stage as this would constitute improper deferral of analysis and piece-mealing, which are illegal under CEQA.

1-11 cont.

3. The customer for the refinery fuel gas must have reasonable flexibility to accommodate excess refinery gas when it is made available. However, the District appears to be with the mistaken assumption that a customer for refinery fuel gas can take every single cubic foot of excess gas. That is not the case. A gas customer expects that the delivery of refinery gas will occur for a predictable length of time, that the length of time is appropriate for them to adjust their other gas purchases, that the quantity and quality of the refinery gas will be reasonably constant, etc. These expectations become a practical limit on the amount of excess refinery fuel gas that can be sold even when a refinery has both the infrastructure and a customer.

Emissions Inventory and Emission Reductions (page 1-9).

In this section, the Draft EA discusses the emissions reductions that the District claims will be achieved by the amendments to Rule 1118. There is a brief statement of the District's underlying assumptions, and the data regarding emissions and expected reductions is shown in Table 1-3, PAR 1118 Emission Reductions.

WSPA finds that most of the assumptions have no basis in fact, that there are significant inconsistencies in the assumptions (and between these assumptions and other aspects of the report), and that the claimed emission reductions (particularly for pollutants other than SOx) are simply unachievable.

1-12

1. The first part of the first assumption, "… emissions are a function of gas flow …", is an incomplete statement of the issue. Emissions, depending upon the particular pollutant, are also related to other characteristics of the vent gas stream.

2. The second part of the first assumption, "… and by 2010 gas flows will be reduced through the addition of flare gas recovery systems and FMPs", is also incorrect. Although the Draft EA is correct that apparently two refineries intend to install flare gas recovery capability and the potential significant adverse impacts associated with these modifications should be addressed in the Draft EA, it needs to be made clear that these potential installations are not driven by "the project" (i.e., PAR 1118). In fact, these two projects are not only entirely outside the scope of the proposed rule, the respective decisions to install these projects predate PAR 1118.

Although it is WSPA's understanding, from the staff, that the two flare gas recovery projects are expected to result in a reduction of SOx emissions of 0.4 tons per day, average, the proposed rule amendments cannot be given any credit for these expected reductions. However, because the projects are among those described in the staff report, they need to be included in the CEQA analysis.

1-12 Further, because the bulk of the emissions reductions have already been achieved, on a self-motivated basis, by the refineries, there can be no certainty that Flare Management Plans will result in additional reductions. At minimum, there has been no demonstration – in the Draft EA, or, in the staff report – that FMPs might result in any additional emissions reductions.

1-13 3. The second assumption, "… by 2010, 90 percent of the vent gas flow will be captured, treated and sent to a refinery's fuel gas system …", is baseless and simply wrong. (This incorrect assumption is, essentially, repeated in the last paragraph on page 1-9.)

1-14 Table 1-1 depicts the reasons for flaring during CY 2003[3]. Table 1-1 purports to show that ten percent of the flaring was due to events labeled "emergencies" while the remaining ninety percent of the flaring was due to "non-emergencies". This is the origin[4] of the "ninety percent" stated in the second assumption. However, in crafting this assumption, the District has failed to recognize numerous facts:

- It would be absolutely impossible to reduce all non-emergency venting to zero, but that is the implication of this assumption.
- The proposed amended rule would specifically exempt vent gases generated by emergencies, startups, shutdowns, turnarounds, or, essential operational needs from the prohibition on flaring. Startups/shutdowns and turnarounds alone accounted for 26 percent of the vent gas flow. Further, although Essential Operational Needs have yet to be adequately defined, they will account for some expected level of unavoidable flaring. Lastly, maintenance activity (6.1 percent of the flaring) should logically be included in the startup/shutdown category.
- A little over six percent of the flaring in CY 2003 was due to imbalances in refinery fuel gas systems. As discussed in our comments on Regulatory Overview, above, flaring attributable to this category would be impossible to eliminate.
- The District has correctly noted the fact that two refineries will likely install flare gas recovery capacity. WSPA assumes that these two projects might reduce industry-wide vent gas flaring by approximately one-third (i.e., CY 2004 SOx emissions of 1.2 tons per day are, according to staff, likely to be reduced by 0.4 tons per day). However, there is no basis for assuming that emissions could be reduced by the additional sixty percent that would be needed to achieve a ninety percent total reduction.
- Some fraction of vent gases are unsuitable for recovery. For example, inert gas used to purge process units would typically not be added to a fuel gas system.

1-15 4. The third assumption, "… by 2010 the affected facilities will have met the performance goal of one ton per day of SOx …", fails to consider the fact that, as of CY 2004, have reduced industry-wide SOx emissions down to a level of 1.2 tons per day, average (and, it is important to clarify that all mention of emissions are on an average daily basis).

[3] WSPA maintains that it is incumbent upon the district to present the best available data – in this case, data for CY 2004.
[4] EA, page 2-9.

1-16

5. The fourth assumption, "… the concurrent combustion emissions (e.g., NOx, VOC, CO and PM10) will also be reduced by 90 percent …", is completely unrealistic as is the case with the comparable second assumption (see item 3, above). This assumption is based on a projection that 100 percent of the non-emergency flaring can and will be eliminated – an obvious impossibility.

A Flare Overview (page 1-11).

The first and second paragraphs, which appear to have been largely extracted from the District's September 2004 "Evaluation Report" (Chapter 3), can give several misleading impressions to the lay reader. We would like to correct some of these misleading statements:

1. Refinery process units are, indeed, the sources for most of the vent gas that might be sent to a flare. However, the general statement that gases are vented to a flare, during normal operation, in order to control pressure, is false. Elsewhere the statement is made that, "Large volumes of hydrocarbon gases containing hydrogen sulfide, ammonia …" etc., are produced – in its context, the statement misleadingly suggests that these materials are released to a flare. These potentially misleading statements need to be corrected.

2. WSPA questions the basis for the District's assertion that four refinery process units are "generally major sources of process vent gases". We want to make two observations in particular:

1-17

A. Vacuum distillation units, as their name implies, operate at a negative pressure and rarely, if ever, encounter over-pressure situations that require the venting of gases to a flare.
B. Sulfur recovery plants handle acid gases (e.g., hydrogen sulfide and ammonia), which are produced primarily by various treating units (e.g., product desulfurization, etc.). Because these materials have a potential for nuisance odors, and have other negative characteristics, extraordinary efforts are made to keep them out of flare systems.

3. The discussion fails to describe the most common circumstances where vent gases are directed to flare systems. Several such circumstances are: emergencies due to equipment failures or the failure of a process unit to operate in a normal manner, maintenance-related activities (e.g., startups/shutdowns of process units or pieces of equipment, depressuring/degassing of equipment, turnarounds, etc.), and temporary fuel gas system imbalances.

Statements in the fourth paragraph claim that, 1) flares are used to dispose of excess gases that are generated as part of the production processes, and 2) flares are "also used" as safety devices. As a practical matter, the stated order is backwards; the primary use of flares is for safety. Further, there are no excess gases, per se, generated as part of production processes. Refineries, as explained under "Regulatory Overview", are designed to be in gas-balance. Any and all combustible gases have economic value, and are flared only reluctantly when there is no other

option. There is no evidence to the contrary and, in fact, it is the recovery of economic value that best explains the 83 percent industry-wide reduction of emissions (SOx) since the start of flare monitoring.

The description of general service flares (page 1-12) includes a statement that flares are used to dispose of "waste" products. Refiners do not use flares to dispose of waste products. In fact, consistent with previous comments, refineries are designed to both be in gas balance and to convert virtually all of the refinery input into salable product – even relatively low-value products such as petroleum coke and elemental sulfur.

1-17

Some of the discussion in the final paragraph under this section speaks to flare gas recovery systems. WSPA is troubled by the editorial nature of the comments, "If the existing gas recovery system is inadequate to handle the expected vent gas volumes, the compressor and associated equipment will have to be modified." and, "… some systems may be insufficient to handle the current volume of vent gas." Unfortunately, District staff has not demonstrated in the Draft EA that they have the requisite refinery design expertise to make these judgments, and the proposed rule itself does not address any of these issues, or, establish any requirements related to these issues. Accordingly, the Draft EA has underestimated the potential significant adverse environmental impacts of PAR 1118.

General Effects of the Proposed Project (page 2-3).

1. It is WSPA's position that it is incumbent on the District to use the best available flare emissions data, and that would be data for CY 2004. Again, WSPA notes that CEQA requires the use of an emissions baseline, for impacts analyses, that is consistent with the time that the Notice of Preparation was issued – this reinforces our concern regarding the inappropriateness of using data from CY 2003.

2. Although it appears to be accurate that emergencies accounted for ten percent of the flaring that occurred in CY 2003, the inference that only flaring due to emergencies is acceptable is completely inconsistent with the requirements of the proposed draft amended rule. Further, it is inaccurate to state that the proposed amendments were initiated because of some perception that non-emergency flaring could be eliminated.

1-18

3. Although the primary focus of the proposed amended rule has been on SOx emissions, it is true that, as SOx emissions are reduced, there will likely be concurrent reductions of other combustion-related pollutants. However, as stated above, the District's assumption that these emissions will be reduced by ninety percent is both baseless and completely unrealistic.

Aesthetics Discussion (page 2-4).

1-19

The expectation that, "… the visual character in the vicinity of affected facilities is expected to improve as a result of *eliminating any smoke emissions* associated with flare events" (emphasis added), is one that cannot be met. As discussed in the WSPA comments on the rule and the staff report, and as discussed in the meetings of the Working Group, flares are "smokeless" only up to a point. Elevated flares, the most common type, are designed to accommodate a certain vent gas mass flow rate without smoking. However, the smokeless capacity is typically limited to some fraction of the "ultimate" capacity of the flare.

The Draft EA also claims that, "… minimizing flare events will reduce *or eliminate* this source of light." (Emphasis added.) Minimizing flaring will reduce the light produced by the flame, but flaring is not expected to be eliminated and, consequently, the light produced by flaring will never be eliminated. Further, it should be noted that flare pilots produce some light, as does the combustion of purge gas at the flare tip.

Air Quality Discussion (page 2-6).

1-20

The discussion of criteria pollutants and the additional California standards should clearly state that the basin is in attainment for SOx (it has been for years), NOx, and CO – and virtually in attainment for PM-10. Also, there are no known problems with the state standard for hydrogen sulfide. WSPA submits that mentioning "In attainment" (for NO2 and CO) in Table 2-1 is not adequate disclosure.

The last sentence in the discussion of item "a" concludes with the statement that Rule 1118 will "… aid the SCAQMD in achieving compliance with the federal and state ambient air quality standards." The principle of fairness demands that the EA fully acknowledge that the basin is already in attainment for various ambient air quality standards, as discussed above.

With respect to Tables 2-2 and 2-3, as has been stated previously, WSPA believes that it is essential for the District to present the best available data (i.e., CY 2004).

Operational Emissions (page 2-9).

1-21

The stated expectation, that "… baseline emissions (as of the fourth quarter 2003) will be reduced by 90 percent by 2010", is completely unrealistic, as are the assumptions that are stated in the paragraph that follows. Reductions of this magnitude are simply unachievable. Please refer to our previous comments (under "Reported Flare Emissions per Rule 1118").

The discussion in the concluding paragraph in this section repeats the erroneous assumptions regarding the nature of "non-emergency" flare events and the potential for a ninety percent reduction of emissions. Please refer to our previous comments on these topics.

1-21 cont.

Consistent with our previous comment (under Project Description) regarding the potential construction of cogeneration units, the Draft EA needs to include an evaluation of the emissions, including ammonia slip, from such units. Additionally, because PAR 1118 will add more maintenance activities from modifications and installation of new equipment as well as more administrative burden regarding monitoring, reporting, and recordkeeping, indirect mobile source equipment associated with contractors and new employees responsible for these duties need to be analyzed in the Draft EA. In doing so, it is likely that operational emissions could be potential significant.

Construction Emissions (page 2-10).

The Draft EA (as well as PAR 1118 itself) lists the possible options of "routing of excess gases to a cogeneration unit" and "sale of excess vent gases to another party", respectively. As discussed above, not every refinery has cogeneration units with the capability of using excess gas, or, has the existing ability to sell excess gas to a customer. Accordingly, the EA needs to fully consider the construction of refinery cogeneration units, and the construction of fuel gas pipelines from refineries to potential customers.

The Draft EA states that, "It is not likely that more than two refineries would simultaneously install a flare gas recovery/gas treating system…". There are several problems with this assumption and the "reasons" that follow it.

1-22

- Because the flare gas recovery systems are significant projects, and because the emission reduction milestones in the proposed rule are not particularly accommodating, it is likely that any such systems would be installed simultaneously.
- The Preliminary Draft Staff Report states that four flare gas recovery systems are likely to be installed (Table VI-2, page VI-3).
- The District has no basis for assuming that a refinery with existing flare gas recovery system(s) would "… most likely choose to increase their compressor capacity if it is found that their current capacity is insufficient to handle vent gas flows." The issue is just not as simple as is being suggested. The District should, instead, determine what each refinery would require. Such an effort would not be unreasonable since there are only a few affected facilities.

The discussion for item "d" states that, "… since PAR 1118 is intended to reduce emissions from flares it is expected that the proposed project will have a beneficial effect on the surrounding communities and reduce human health impacts from poor air quality." WSPA believes that the principles of fairness and accuracy demand that all of the following be fully disclosed in the EA:

1. Reported emissions (again, as measured by SOx – which is the primary focus of PAR 1118) have already decreased, on a self-motivated basis, by 83 percent from CY 2000 to CY 2004.

2. The District expects that two facilities will install flare gas recovery systems and that these two systems – which are clearly not a requirement of the rule because the commitments to install these systems have already been made – will likely reduce emissions by one-third from current (i.e., CY 2004) levels. There are, in fact, no demonstrable emissions benefits associated with the PAR 1118 itself. However, the potential significant adverse impacts associated with these modifications should be addressed in the Draft EA.
3. Air quality in the vicinity of the affected facilities cannot legitimately be described as "poor". Both the District and the ARB have conducted air quality monitoring in communities near the refineries. The results of these studies have shown that, with the possible exception of PM (which is primarily due to mobile sources), air quality in these communities is on par with, and in some cases better than, air quality elsewhere in the basin. Further there has been no linkage, or demonstration, that refinery flaring results in an adverse impact on air quality – particularly with the reduction of flaring-related emissions that has already been achieved.

1-22 cont.

The discussion of item "e" states that PAR 1118 is expected to reduce odors, with SOx being given as a specific example. Again, the principle of fairness demands that the EA acknowledge the facts as discussed above. Further, as a practical matter, SO2 is known to disperse readily, to have little ground-level impact, and to not be commonly associated with odor complaints linked to refineries or their flares.

Biological Resources Discussion (page 2-13).

1-23 As stated previously, the construction of infrastructure (e.g., a pipeline), to permit sales of excess gas to a customer, needs to be considered. Construction of these types of infrastructure would clearly include work that is outside of the boundary of the affected facilities.

Cultural Resources Discussion (page 2-14).

1-24 Same comment as above.

Energy Discussion (page 2-15).

1-25 The discussion of items b), c) and d) includes the statement that "… reducing flare events will reduce the energy demand of equipment involved in flare events." This statement is inaccurate. There is no obvious relationship between flare events and the energy demand of equipment involved in such events. If, however, the District believes that such a relationship exists, some substantiation needs to be provided.

It is also stated that "… the affected facilities may choose to convert vent gases to fuel gas, and use this fuel gas in other areas of the refinery, thereby causing an energy usage benefit." This statement is overly simplistic and needs to be enhanced for clarification.

1-25 cont.

A refinery equipped with a flare gas recovery serving a particular flare will generally be able to recover vent gas, up to the capacity of the flare gas recovery system, and utilize the vent gas as fuel gas. However, as has been stated previously, some vent gases are not appropriate to add to a fuel gas system. In addition, vent gas can possibly be added to a refinery fuel gas system only to the extent that there is capacity in the fuel gas system – for example, if the vent gases originated with an over-pressured fuel gas system, it would not be possible to add more gas to that system (i.e., the vent gas will have to be flared).

The operation of cogeneration units, one of the optional modifications listed in PAR 1118, has energy implications that need to be evaluated in the EA.

Geology and Soils Discussion (page 2-17).

1-26

As stated previously, the construction of infrastructure (e.g., a pipeline), to permit sales of excess gas to a customer, needs to be considered. Construction of these types of infrastructure would clearly include work that is outside of the boundary of the affected facilities.

Hazards and Hazardous Materials (page 2-18).

1-27

The operation of potential cogeneration units would require the use of ammonia for the SCR units that would be required to control emissions of NOx. The EA needs to evaluate the issues associated with the use of ammonia – including transportation, and ammonia slip.

Land Use and Planning (page 2-24).

1-28

Same comment as above.

Public Services Discussion (page 2-29).

1-29

Same comment as above.

Transportation/Traffic (page 2-31).

1-30

The construction of infrastructure (e.g., a pipeline) to permit gas sales to a customer, and the construction of cogeneration units, respectively, needs to be considered. Where a refinery installs cogeneration units, it is likely that additional full-time, permanent employees or contractors would be necessary to operate and maintain that equipment as well as additional employees and contractors necessary to handle the increased administrative burden associated with more monitoring, reporting, and recordkeeping requirements.

Construction Transportation-Related Emissions (page 2-33).

The EA needs to consider issues related to the construction of off-site infrastructure (e.g., pipelines) necessary to potentially sell gas to a customer, and the construction of on-site cogeneration units. In addition, WSPA questions the basis for the current estimates regarding construction transportation-related emissions.

We are concerned regarding the apparent lack of bases for the determinations that there will be increases of 44, 46 and 60 trips per day for Phases I, II, and III respectively. To the best of our knowledge, the District only has information regarding the construction of a "flare recovery and gas treating system … for a petroleum refinery located in Billings, Montana, where such a system was installed in 2003 *to eliminate acid gas flaring*." (Preliminary Draft Staff Report, page VI-2, emphasis added.) However the District's reliance on the Billings project as a model suffers from several significant defects:

1-31

- It has not been established that a project, apparently intended to eliminate acid gas (i.e., sulfur plant feed gas) flaring, is comparable to a project that might be implemented for the recovery of "conventional" vent gas at an affected facility in the basin.
- The District has assumed[5] that three affected facilities would install "Billings model" systems, and that each of the three systems would be identical and have the same cost. Clearly, given the fact that, as the District acknowledges (see item 1, page 2-11) every refinery is unique, identical gas recovery systems would not be installed at each affected facility. And, the layout and configuration – and, thus, the costs – of the three installations would likely be very different from each other.
- The District has assumed[6] that a fourth affected facility would install a flare gas recovery system with one-third of the capacity of the other three. Because the staff has erroneously assumed that the cost of the fourth, smaller system, would be simply proportional to the cost of larger systems, any estimates for construction resources and construction emissions would, of necessity, also be wrong.

Please also refer to WSPA comments on the calculations and assumptions section.

Discussion of Mandatory Findings of Significance (page 2-34).

A statement is made under the discussion of item "c" that significant adverse impacts in various categories are not expected from the implementation of PAR 1118. However, given WSPA's comments, it is premature to reach such a conclusion. The current analyses are incomplete, inaccurate, or both.

1-32

[5] Preliminary Draft Staff Report, page VI-3.
[6] Ibid.

The claim is made that "The direct impact from the proposed project, however, is a reduction in flare emissions released into the atmosphere." The simple facts, as discussed in detail above, are that,

- The bulk of the emission reductions have already been achieved without the requirements of PAR 1118.
- Two specific projects (which are also not driven by the rule) will likely reduce emissions by one-third from CY 2004 levels.
- There has been no demonstration that PAR 1118 itself will reduce emissions at all (and, it has certainly not been demonstrated that emissions will decrease by the ninety percent that has been assumed).

1-32

The statement is also made that "Reducing flare emissions is expected to positively affect human health by reducing population exposure to air pollutants in the district." As WSPA has stated over and over again in these comments, the overwhelming majority of the emission reductions have already been achieved, and those reductions were realized without PAR 1118. Expected additional reductions, as WSPA understands them from staff, are very small (0.4 tons per day SOx, average) – and, these too will be realized without PAR 1118. With respect to the issue of population exposure to air pollutants, there has been no demonstrated linkage between flare-related emissions and ambient concentrations of pollutants. Further, it is a matter of fact that the Basin is in attainment for SOx, NOx and CO, and, we understand, virtually in attainment for PM-10. It is also a matter of fact that SCAQMD and ARB studies of air quality in the communities in and around the affected facilities have demonstrated that air quality is as good as, or better than, air quality elsewhere in the basin.

Calculations And Assumptions Used For Determining Potential Construction Emissions (page B-1).

1. An $8.05-million project (Preliminary Draft Staff Report, page VI-2), if in fact appropriate flare gas recovery systems could be constructed for that amount, could not possibly be installed in two months as has been estimated. (It typically takes four weeks just for concrete to cure sufficiently to set equipment on top of it, and all that while other work gets done.) The District needs to have individual discussions with affected facilities before it should make representations regarding the time required for construction of these projects, or, any of the other estimates within this section.

1-33

2. The estimate of emissions from concrete delivery trucks has no apparent basis in fact. There first need to be estimates of the number of cubic yards of concrete that each separate project will require; from that one can estimate the number of truck-trips. However, prior to developing the estimated volumes of concrete required for each project, there needs to be a good understanding of the scope of each project. The District does not currently have this knowledge.

3. The assumption that site preparation is limited to "finish grading for a concrete pad" has no basis in fact. The District currently has no understanding of the scope of each individual project.

4. WSPA believes that most construction workers will have to commute a distance considerably greater than the ten miles that has been assumed. Further, estimates regarding the number of workers required for each of the three phases of each potential flare gas recovery project can only be developed after the District gains a appropriate, working understanding of the scope of each individual project.

1-33 cont.

5. Before the District makes an assumption regarding the amount of plot space required by the equipment comprising the potential flare gas recovery projects, staff needs to gain an understanding of each individual project, including the degree to which equipment might be spread out in different process areas, and the requirements for inter-connecting piping.

WSPA is troubled by the fact that no discussion of alternatives to the project (i.e., PAR 1118) has been included in the Draft EA.

The Draft EA concludes that the project is not expected to cause significant adverse impacts (a conclusion that, consistent with these comments, WSPA does not necessarily agree with). In fact, based on the comments above, there are potential impacts in addition to those that have already been identified. Thus, the project could result in overall adverse impacts that are deemed significant.

1-34

During the process of discussing and developing PAR 1118, WSPA has presented numerous alternative approaches for achieving the District's two primary goals of perpetuating the current low level[7] of flare-related emissions, and being able to take credit for the reductions, respectively. These various alternatives can reasonably be expected to accomplish the same goals but with even less potential for adverse impacts. WSPA believes that alternatives to the project must be evaluated by the EA even if a further, more-complete evaluation of the impacts, still results in a draft determination of non-significance.

In closing, WSPA would like to thank the District for its cooperative efforts in this rulemaking process. WSPA believes that if crafted carefully the Flare Rule can achieve the common objectives of the District, the communities, and the refineries of controlling emissions of air pollutants, attaining and maintaining ambient air quality standards, protecting public health and the environment, and balancing energy supply, while maintaining safe refinery operations for those who work within the facilities and those that live in the surrounding communities. WSPA is committed to continuing to work with the District to achieve these goals

1-35

[7] We believe that there is the mutual recognition that flare activity, and resultant emissions, are expected to vary somewhat from year to year.

We appreciate the opportunity to comment on the Draft EA. WSPA hopes these comments will be helpful to the District in deciding whether to adopt the Draft EA and PAR 1118.

Sincerely,

Ron Wilkniss

Ron Wilkniss
Senior Coordinator, South Coast Issues

cc: Laki Tisopulos, Ph.D., P.E.
Eugene Teszler

RESPONSE TO COMMENT NO. 1 – FROM WESTERN STATES PETROLEUM ASSOCIATION

1-1 PAR 1118 will regulate flaring events at affected facilities. The SCAQMD's report on flare emissions demonstrated that a large percentage of flare events are unnecessary. Eliminating unnecessary flaring events will contribute substantially to an affected facility's ability to comply with PAR 1118. Although operators at some facilities will need to make some modifications, overall the SCAQMD disagrees with the commentator's opinion that affected facilities "will be significantly impacted by the rule." Further, the Draft Environmental Assessment (EA) for PAR 1118 concluded that the proposed project will not have a significant impact on the physical environment.

1-2 The SCAQMD acknowledges that WSPA has previously submitted comments on the proposed amended rule and the preliminary draft staff report. The proposed amended rule and the preliminary draft staff report have been substantially revised based on input received from the stakeholders participating in the working group meetings. Comments specific to the proposed rule language or the staff report will not be responded to in the EA. In accordance with CEQA Guidelines §15204(b), in reviewing environmental documents, persons should focus on the proposed finding that the project will not have a significant effect on the environment. If persons believe that the project may have a significant effect, they should: (1) identify the specific effect; (2) explain why they believe the effect would occur; and (3) explain why they believe the effect would be significant. However, previously submitted comments on the proposed rule are addressed in the PAR 1118 staff report.

1-3 Commentators are not restricted in submitting additional and supplemental comments on the EA, however, if not submitted in a timely manner, staff may not be able to provide a written response to comments received after the public review period has closed in the CEQA document. Further, the rule development process allows for comments to be made during working group meetings, public workshops, public consultation meetings and public hearings.

1-4 Although the performance goals in section (d) of the proposed amended rule focus on reducing total sulfur flare emissions, calculated as sulfur dioxide (SO_2), PAR 1118 applies to all flare emissions. As outlined in Attachment B of PAR 1118, guidelines for calculating ROG, NOx, CO, PM10 and SOx from vent gas, natural gas, propane and butane emissions are included as part of the proposed rule amendments. CMB-07 from the 2003 Air Quality Management Plan (AQMP) includes a SOx emission inventory, but also states that concurrent emissions of VOC, NOx, CO and PM10 will also be reduced.

1-5 SCAQMD staff acknowledges that the affected facilities within the district have reduced flaring emissions. However, based on the Evaluation Report on Emissions from Flaring Operations at Refineries, more than 95 percent of the total flaring emissions were attributed to non-emergency events in 2000; 98 percent in 2001; 86 percent in 2002 and 90 percent in 2003. Therefore, the second paragraph within the Introduction section, on page 1-1 of the Final EA has been clarified to state that "based on the results of this

report, it was determined that further emissions reductions from flaring operations within the Basin can be achieved."

Furthermore, as part of the 2003 AQMP/State Implementation Plan (SIP), the SCAQMD is committed to implement CMB-07 to achieve the specific emission reduction targets of the control measure and surpass these targets if additional reductions are technologically feasible and cost effective. The only method of ensuring that the emission reductions will be real and permanent is to adopt an enforceable rule. Further, emission reductions can only be credited toward the SIP and fulfill the goals outlined in the 2003 AQMP if included as enforceable provisions in a rule or other legally binding arrangements. Voluntary emission reductions cannot be credited toward the SIP emission reduction requirements.

Table 1-2 in the EA presents an overview of industry-wide flare emissions over four years. This table shows that industry-wide flare emissions have decreased over the past four years. The SCAQMD acknowledges that 2004 flare emission data were received in the first quarter of 2005. At the time of the release of the Draft EA, however, the 2004 data had not been audited or verified for completeness and accuracy. As a result, the environmental analysis relied on the most accurate data available, which was the four years of data submitted by the refineries and compiled in the Evaluation Report on Emissions from Flaring Operations at Refineries, dated September 3, 2004. The 2004 data do not change the conclusions in the Draft EA or change the fact that to be credited toward the SIP, the emission reductions must be enforceable through rule requirements.

1-6 The SCAQMD disagrees with the commentator's opinion that Chapter 2 of the Draft EA has not considered all of the potential physical changes that might result from the proposed project. Please refer to the specific responses to comments with regards to Chapter 2 as the basis for the SCAQMD's assertion that Chapter 2 of the Draft EA has considered all of the potential physical changes associated with the implementation of PAR 1118 that can be identified at this time, as required by CEQA.

1-7 PAR 1118 will prohibit flaring during certain conditions and establish performance goals. If these reductions have already been achieved by a facility, then the performance target will be complied with sooner or more easily as indicated in Response 1-1.

The data used in the CEQA evaluation of PAR 1118 are from the fourth quarter 1999 through the last quarter of 2003. As noted in Response 1-5, data for the year 2004 had not been audited or verified for completeness and accuracy at the time of the release of the Draft EA which relied on the most accurate data available. While the SCAQMD acknowledges the flare emission have been reduced over the years, the accuracy of the emissions data/reductions reported and provided in this comment are not verified as credible due to compliance issues and flow meter readings. Further, PAR 1118 is still necessary to receive SIP emission reduction credit through enforceable rule provisions.

The intention of the rule is not to compromise safety so the first sentence of the project objective will be revised in the Final EA to read, "The objective of PAR 1118 is to establish a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions to date without compromising the safe operation of affected facilities in the Basin."

1-8 The SCAQMD disagrees with the commentator that using the emissions data from the Evaluation Report is inappropriate. The Draft EA did use the latest and best available data during the time of the analysis and the release of the document which was the verified information provided in the September 2004 Evaluation Report on Emissions from Flaring Operations at Refineries which encompasses data from the fourth quarter of 1999 through the last quarter of 2003 submitted by all refineries in the Basin. As previously noted in Response 1-5 and 1-7, the calendar year 2004 data received in the first quarter of 2005 had not been audited and verified for completeness and accuracy at the time the CEQA environmental analysis was prepared. Further, the more recent data do not change any of the conclusions regarding potential environmental impacts from implementing PAR 1118 in the EA.

A Notice of Preparation was not required to be prepared for PAR 1118. The Draft EA for PAR 1118 is a substitute document for a Negative Declaration (ND) pursuant to CEQA Guidelines §15252 in certified programs. The SCAQMD is lead agency for PAR 1118 and prepared an EA with no significant adverse environmental impacts pursuant to its certified regulatory program.

PAR 1118 is intended to ensure that flaring and flare-related emissions are minimized in the future beyond the current levels. Another key goal of PAR 1118 is to improve the monitoring and data gathering procedures and, specifically, improve the quality of the emission information gathering. As a result, the SCAQMD continues to assert that using the Evaluation Report, which includes a compilation and overview of four years of data, is an appropriate baseline to determine an emissions inventory, emissions reductions, and perform a thorough environmental analysis.

1-9 The data in Table 1-1 of the Draft EA show that 2.94 percent of the total flare emissions in 2003 were attributed to unknown, recordable, non-emergency events. These data are taken directly from the Evaluation Report.

The paragraph after Table 1-1 in the Draft EA paraphrases a statement directly from the Evaluation Report (page 11) which said "there are opportunities for each facility [refinery] to continue to focus on methods best suitable for its operations to reduce or eliminate unknown flare events and to continue to improve on its existing procedure to minimize flaring during turnaround activities and during planned startups and shutdowns." SCAQMD staff acknowledges that refineries in the Basin have decreased flaring emissions; however, without enforceable rule provisions, there are no guarantees that these emissions will not increase in the future. In addition, as previously stated in Response 1-5 and 1-7, the 2003 AQMP/SIP is committed to implement CMB-07 to achieve the specific emission reduction targets of the control measure and surpass these targets if additional reductions are technologically feasible and cost effective. The only method of ensuring that the emission reductions will be real and permanent and that further minimization of flaring and flare-related emissions occurs is to adopt an enforceable rule. Otherwise, emission reductions cannot be credited toward the SIP.

As previously stated in Response 1-8, the information in Table 1-1 of the Draft EA came directly from the September 2004 Evaluation Report on Emissions from Flaring Operations at Refineries which encompasses data from the fourth quarter of 1999 through the last quarter of 2003 submitted by all refineries in the Basin. Further, during the

preparation of this report the SCAQMD worked closely with the refineries and the refineries had numerous opportunities to comment and provide input into the preparation of this report. The SCAQMD understands the need to send excess fuel gas to the flares, however, the proposed amended rule provides relief for this type of activity within the new definition of Essential Operational Need. It should be noted, however, that the flaring of fuel gas has increased since 1999. In the fourth quarter of 1999, fuel gas was 0.33 percent of the total flared vent gases; and in 2003, fuel gas was 6.28 percent of the total flared vent gases.

1-10 The bulk of this comment provides information on the complexity of refinery fuel gas systems. The SCAQMD understands that fuel gas systems, like refineries are complex operations. This detail on the refinery fuel gas system, however, does not affect the environmental analysis.

The Regulatory Overview section of the Final EA has been revised to improve clarity. The emergency gases vented to a flare are not subject to Rule 431.1 at RECLAIM facilities. If the fuel gas is routed to heaters or boilers subject to 40 CFR 60 Subpart J, a limit of 160 ppm H2S, averaged over 3 hours, applies.

The SCAQMD disagrees with the commentator's assertion that compliance with both PAR 1118 and Rule 401 constitutes "double-jeopardy." The visible emissions requirements in Rule 401 and PAR 1118 are not identical or duplicative. These rules refer to the use of different methods to measure visible emissions. Rule 401 uses EPA Method 9 to measure the opacity of visible emissions over a set period of time, whereas PAR 1118 uses EPA Method 22 which set limits on the duration of visible emissions over a set period of time. Separate and distinct authority for enforcement of violations of opacity standards is provided by California state law, California Health and Safety Code §42701.

1-11 As stated previously, comments submitted specifically on the proposed amended rule language and the preliminary draft staff report will be not responded to in the Final EA (see Response 1-2). Instead, these comments are addressed in the PAR 1118 staff report.

It was assumed in the Draft EA that refineries would use excess flare gas because it "can be recovered and used internal to the plant to provide energy," as indicated by the ConocoPhillips representative in comment letter #2. The version of PAR 1118 analyzed in the Draft EA did include an option for sale of excess vent gases to another party. As the commentator suggests, however, there are "major obstacles that would have to be overcome before a refinery would be able to deliver excess fuel gas to a customer." Further, since this was one of several options, staff could not speculate which option a refinery operator would choose especially given the fact that refineries reduced flare emissions over 70 percent between 1999 and 2004. As noted in CEQA Guidelines §15145, if a lead agency finds a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact. Subsequent to the release of the Draft EA, the proposed amended rule language was revised to delete the following requirements:

- installation of a flare gas recovery system and additional gas treating capacity;
- installation of additional flow meters on flare headers;
- eliminating or diverting vent gas streams from flare headers;

- routing of excess gases to a cogeneration unit;
- sale of excess vent gases to another party; and
- operator training to increase awareness on flaring.

If at some time in the future, a refinery operator decides to build a pipeline or cogeneration unit to comply with PAR 1118, or for any other reason, the project would likely go through the proper CEQA process.

1-12 Table 1-1 reflects 2003 data which shows approximately 90 percent of the flared vent gases were attributed to non-emergency events. While the SCAQMD still supports the verified inventory data presented in the Draft EA, staff has modified the proposed requirements in the PAR 1118 to regulate different targets of non-emergency sources, thus, the anticipated emission reductions will be less yet more feasible to achieve. To provide clarification, the Emission Inventory section in the Final EA will be revised to state: (1) emissions are a function of gas flow and the physical characteristics of the vent gas; (2) by 2012 the affected facilities will have met the performance target of 0.5 ton SOx per million barrels of crude processing capacity; (3) by 2010, 53 percent (from the averaging of 2002 and 2003 data) of the vent gas flow will be reduced; and (4) by virtue of reducing the vent gas flows by 53 percent, the concurrent combustion emissions (e.g. NOx, VOC, PM10 and CO) will be reduced by 53 percent.

SCAQMD staff disagrees with the commentator's opinion that the statement "…by 2010 gas flows will be reduced through the addition of flare gas recovery systems and FMPs is incorrect." Based on numerous conversations between SCAQMD staff and refinery personnel, between refinery managers and the AQMD Executive Officer, and discussions in the working groups, it is clear that at least two of the refineries in the Basin will be either modifying their existing gas recovery/treatment facilities or constructing new gas recovery/treatment facilities in order to reduce emissions from flares. By the year 2010, flaring emissions will be reduced due in part, to additional flare gas recovery/treatment systems in the Basin. Further, PAR 1118 has been modified since the release of the Draft EA to achieve further emission reductions by year 2012.

It is irrelevant why an operator of a particular source reduces emissions once a rule is adopted that results in emission reductions which are real, permanent and enforceable, as well as ensuring no backsliding of the reductions already achieved by industry, as well as receiving emission reduction credit towards its SIP commitments.

Subsequent to the release of the Draft EA, the proposed amended rule language was revised to delete the following requirements:

- installation of a flare gas recovery system and additional gas treating capacity;
- installation of additional flow meters on flare headers;
- eliminating or diverting vent gas streams from flare headers;
- routing of excess gases to a cogeneration unit;
- sale of excess vent gases to another party; and
- operator training to increase awareness on flaring.

Subsequent to the release of the Draft EA, the proposed amended rule language was revised. The section within the FMP requirements requiring all refineries to prepare a

FMP was changed to require that only the refineries who exceed the performance targets must prepare a FMP.

1-13 SCAQMD staff has reevaluated the 90 percent of the vent gas to be captured, treated and sent to the fuel gas system, and has determined a more accurate emission reduction will be 53 percent (from the averaging of 2002 and 2003 data) of the total vent gas flows are expected to be reduced by 2010. The 53 percent represents the non-emergency, non-recordable and unknown vent gases. The remaining 47 percent of the total vent gas flows are emergency, maintenance, turnaround and planned shutdown gases. The Final EA will reflect this latest emission reduction estimate.

1-14 As previously stated in Responses 1-8 and 1-9, the 2004 data had not been audited and verified for completeness and accuracy at the time the CEQA environmental analysis was done and, therefore, the most accurate at the time was taken directly from the September 2004 Evaluation Report on Emissions from Flaring Operations at Refineries and placed in Table 1-1 of the Draft EA. The information in the report encompasses data from the fourth quarter of 1999 through the last quarter of 2003 submitted by all refineries in the Basin.

With regards to the commentator's concerns in regulating non-emergency flaring events, PAR 1118 has been modified to allow flaring for non-emergency, but essential operational needs such as during turnarounds, inability of customer to accept sales gas, etc.

1-15 As previously mentioned in Responses 1-5, 1-7, 1-8, 1-9 and 1-12, the SCAQMD acknowledges flare emissions have been reduced in the past, however, further emission reductions can be achieved.

1-16 As previously noted, PAR 1118 has been modified to allow flaring for non-emergency, but essential purposes such as during turnarounds, etc. Further, as noted in Responses 1-12 and 1-13, the reduction in emissions has been revised to reflect the current version of PAR 1118 which is a 53 percent reduction. The Final EA has been revised to reflect the current emission reduction potential.

1-17 The section in the Draft EA entitled a Flare Overview was taken directly from the September 2004 Evaluation Report which was compiled based on information provided by the refineries in the Basin and the preliminary draft staff report. This section will be modified to improve clarity; however, it should be noted that the purpose of this section is to provide the reader with a general flare overview. This section does not affect the environmental evaluation of PAR 1118, and, as such, has not lead to an underestimation of potential significant adverse environmental impacts of the proposed project in the Draft EA.

1-18 As previously stated, calendar year 2004 data was not verified for completeness and accuracy, and was therefore unavailable to be used in the environmental analysis.

The Draft EA, section entitled General Effects of the Proposed Project, clearly states that "PAR 1118 would prohibit the flaring of vent gases except during emergencies, shutdowns/startups and essential operational needs…." This section of the Draft EA does not infer that only flaring due to emergencies is acceptable. Further, PAR 1118 has been modified to allow non-emergency, but essential, flare events to occur.

1-19 The section on aesthetics in the Draft EA will be revised as follows:

Since PAR 1118 will reduce flaring events in the future, the visual character in the vicinity of the affected facilities is expected to improve as a result of diminished frequency of flare events and less ~~eliminating any~~ smoke emissions associated with flare events.

To the extent that flares are visible in the vicinity of affected facilities, minimizing flare events will reduce ~~or eliminate~~ this source of light.

1-20 The SCAQMD disagrees with the commentator that Table 2-1 (SCAQMD Air Quality Significance Thresholds) in the Draft EA is not adequate disclosure. The Basin is formally designated as being in attainment for all federal and state ambient air quality standards for SOx, NOx and lead. The Basin has met the criteria for redesignation, but has not been formally redesignated as in attainment for CO as of the writing of these responses. The district currently exceeds federal, and substantially exceeds in many areas of the state, ambient air quality standards for PM10 and as a result does not meet the criteria for attainment. Further, emission reductions from the flare operations will contribute to attaining PM2.5 standards.

With respect to Tables 2-2 and 2-3, as previously stated, the 2004 data were not verified for completeness and accuracy at the time the Draft EA was released, and was therefore unavailable to be used in the environmental analysis. Also, see Responses 1-12, 1-13 and 1-16.

1-21 Please refer to Responses 1-12 and 1-13 with regards to the 90 percent emission reduction estimate in the Draft EA.

As noted in Response 1-11, the version of PAR 1118 evaluated in the Draft EA did not specifically require the construction of cogeneration units (or pipelines or SCRs) to comply with the rule amendments, but allowed it as a series of compliance options. The refineries have options as to how to handle the gas from the recovery and treatment system but there is no rule requirement as to what the facility specifically does with the remaining product. As already noted, refineries have reduced flare emissions over 70 percent between 1999 and 2004. It is assumed that refineries reduced emissions by using excess vent gas in existing refinery combustion equipment, including cogeneration units, or selling the excess vent gas to other companies. The analysis also assumed that use of vent gas by cogeneration units was for existing units. There was never any implication that refinery operators had to construct cogeneration units to comply with PAR 1118. Instead, the assumption was that if existing cogeneration units were already at maximum capacity or otherwise unavailable, other compliant options would be pursued. Options such as constructing new cogeneration units or new pipelines have not historically been chosen so it would be speculative to assume these alternative options would be chosen. Further, if the construction of new cogeneration units or pipelines were chosen as an option to handle the excess vent gas, the specific project would trigger the need for a focused CEQA analysis and, thus, potential impacts to air quality, biological resources, cultural resources, geology, hazards, land use, public services and traffic would be evaluated and disclosed in that environmental analysis.

1-22 See Response 1-21 with regard to the fact that the construction and operation of new cogeneration units handling the excess vent gas from the project was not expected to be a compliance option. Historically, refinery operators have not constructed cogeneration units to reduce vent gas emissions.

The phrase "from poor air quality" will be deleted from the Draft EA.

Sulfur dioxide not only has a bad odor, it can irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO2 can also aggravate existing heart and lung diseases. Children, the elderly, those with chronic lung disease, and asthmatics are especially susceptible to these effects. The Draft EA asserts, and the SCAQMD continues to assert in these responses, that reducing emissions from flaring activities will improve air quality, as well as reduce odors from the refinery industry, especially because the emission reductions would be permanent and enforceable under PAR 1118. The SCAQMD disagrees with the commentator's opinion that SO2 is known to disperse readily, to have little ground-level impact, and to not be commonly associated with odor complaints linked to refineries of their flares. Pursuant to 40 CFR 355, Appendix A, SO2 is listed as a hazardous substance with a notification threshold of 500 pounds.

At least two affected facilities are expected to install four gas recovery and treatment systems but with a compliance date of 2009-2010. Given that the affected facilities have up to four to five years to install the systems and assuming that construction of the systems would take two months (based on input from refinery representative) it is reasonable that construction of one flare gas recovery and treatment system would not overlap with the construction of another at a different location. Further, if it is true as asserted by the commentator that two flare gas recovery systems "are not driven by 'the project' (i.e. PAR 1118)" [see comment 1-12] then they shouldn't even be included as part of the analysis. Finally, per conversations and meeting with the refineries, the tentative construction schedule for the recovery systems will not overlap.

1-23 See Responses 1-11 and 1-21 with regard to the construction of a new pipeline to handle the excess vent gas from the project and the impacts to biological resources.

1-24 See Responses 1-11 and 1-21 with regard to the construction of a new pipeline to handle the excess vent gas from the project and the impacts to cultural resources.

1-25 The Draft EA will be revised by deleting the sentences, "Further, reducing flaring events will reduce the energy demand of equipment involved in flare events" and "Further, the affected facilities may choose to convert vent gases to fuel gas, and use this fuel gas in other areas of the refinery, thereby causing an energy usage benefit." See Response 1-21 regarding why operators are not expected to construct cogeneration units to comply with PAR 1118.

1-26 See Responses 1-11 and 1-21 with regard to the construction of a new pipeline to handle the excess vent gas from the project and the impacts to geology or soils.

1-27 See Responses 1-11 and 1-21 with regard to the construction of a new cogeneration unit to handle the excess vent gas from the project and the impacts to hazards or hazardous materials.

1-28 See Responses 1-11 and 1-21 with regard to the construction of a new cogeneration unit to handle the excess vent gas from the project and the impacts to land use and planning.

1-29 See Responses 1-11 and 1-21 with regard to the construction of a new cogeneration unit to handle the excess vent gas from the project and the impacts to public services impacts.

1-30 See Responses 1-11 and 1-21 with regard to the construction of a new cogeneration unit or pipeline to handle the excess vent gas from the project. Further, because construction of new pipelines or cogeneration units is not expected to be pursued as a compliance option for PAR 1118, potential transportation/traffic impacts, as suggested by the commentator, will not occur.

1-31 The environmental analysis in the Draft EA associated with construction-related air quality impacts was not associated with the Billings, Montana project. The construction scenario was developed by staff with assistance from the refinery personnel. Based on this input from refinery personnel a typical construction scenario was developed and the specific equipment and personnel parameters were designated for each phase. The SCAQMD disagrees with the commentator's opinion that this analysis has no basis. The Draft EA and the associated Appendix B clearly outline the methodology and approach for preparing the analysis. Finally, the commentator provides no specific information on how the analysis in the Draft EA is deficient or what information is needed to improve the analysis.

1-32 The SCAQMD disagrees with the commentator's opinion that the conclusion in the Draft EA of no environmental impacts is premature; and that the analysis is incomplete, inaccurate or both. The Draft EA concludes, and the SCAQMD continues to assert in these responses, that PAR 1118 is not expected to cause significant adverse environmental effects based on the analysis in the EA. PAR 1118 does not trigger any action which would cause a direct or anticipated indirect significant adverse impact on the physical environment beyond the existing setting.

Refer to Responses 1-5 and 1-12 regarding the need for PAR 1118 in spite of voluntary emission reductions at the refineries.

The SCAQMD disagrees with the commentator that it is a matter of fact that the Basin is in attainment for SOx, NOx and CO, and virtually in attainment for PM10. Emission reductions from the flare operations will also contribute to attaining PM2.5 standards. See Response 1-20.

1-33 The commentator expresses the opinion that the construction analysis assumptions that site preparation will be limited to finish grading "has no basis in fact." Yet the commentator provides no information as to why this assumption is wrong nor provide any information regarding what assumptions should be used. The refineries in the Basin are typically located on flat terrain that has been previously graded to provide roads, pads for equipment, free access space to equipment, as well as eliminate obstruction for equipment traveling over the site. Until compelling information is provided, the finish grading assumptions will remain as appropriate.

The commentator also expresses the opinion that construction worker commute trips are "considerably greater than the ten miles" assumed in the analysis. First, the commentator provides no alternative information or other data to support this opinion. Further,

construction worker commute trips were assumed to be 20 miles (i.e., two 10-mile one-way trips) which is reasonable for construction work located in a major urban area where the labor pool can be obtained locally.

The environmental analysis in the Draft EA did not use the Billings, Montana project to model the "worst-case" construction scenario. If, as asserted by the commentator, construction of flare gas recovery systems takes longer than assumed in the Draft EA, then daily construction emissions would be even less than calculated for PAR 1118. The reason for this assertion is that more equipment, operating more hours per day, is necessary to complete a project on an expedited schedule. If the schedule occurs over a longer time frame fewer pieces of construction equipment may be needed or construction equipment may not need to operate as many hours per day. Therefore, the construction scenario presented in the Draft EA was developed by staff, in consultation with refinery representatives, based on typical construction activity assumptions and the appropriate methodology calculations.

1-34 SCAQMD's analysis of PAR 1118 shows that the project will not have a significant adverse effect on the environment. Further, the commentator's assertion that PAR 1118 will generate significant adverse impacts is not supported by the comments submitted. Therefore, no alternatives or mitigation measures are required to be included in the EA to avoid or reduce any significant effects on the environment (CEQA Guidelines §15252(b)(2)) as the analysis demonstrates that PAR 1118 will not generate any significant adverse environmental impacts. The commentator's opinions are incorrect or not supported by any evidence or data.

1-35 The SCAQMD seeks to adopt PAR 1118 and fulfill the project objective of establishing a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions to date, without compromising the safe operation of affected facilities in the district. Further, the current version of PAR 1118 was developed based on substantial input from stakeholders including WSPA, refineries and environmental groups representing residents in the vicinity of the affected facilities. As a result, SCAQMD staff believes the current version of PAR 1118 balances the concerns of the local communities, concerns of the affected facilities to operate safely and the concerns of the SCAQMD to obtain permanent and enforceable emission reductions from affected sources.

ConocoPhillips

Los Angeles Refinery

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July 29, 2005

Ms. Kathy C. Stevens
CEQA Section
Office of Planning, Rule Development, and Area Sources
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA. 91765-4182

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT
PROPOSED AMENDED RULE 1118:
CONTROL OF EMISSIONS FROM REFINERY FLARES

Dear Ms. Stevens:

We appreciate the opportunity to provide you with the following comments on the Draft Environmental Assessment For Proposed Amended Rule 1118: Control of Emissions from Refinery Flares. ConocoPhillips has already submitted comments regarding the Proposed Amended Rule 1118 and the associated staff report. These comments are limited to the Draft Environmental Assessment only.

The Western States Petroleum Association (WSPA) is submitting detailed and extensive comments to you regarding this Draft Environmental Assessment. ConocoPhillips supports the comments made by WSPA, and has had input to WSPA regarding the comments as well.

3-1 There are two important aspects that are particular to this rulemaking. First, flares are safety devices and their use cannot be regulated in a manner that prevents all flaring. When needed, they provide the best alternative for managing excess gases, pressure relief, or control of hydrocarbon, sulfur and other compounds to the atmosphere consistent with regulations and good air pollution practices.

The second important aspect is that both the industry and ConocoPhillips have already reduced emissions to levels below the targets in the 2003 AQMP – without a rule. This progress reflects both a commitment to reducing emissions to the environment and potential nuisance to our neighbors. Reduction of flaring also makes good economic sense if the gases can be recovered and used internal to the plant to provide energy. Specifically, ConocoPhillips made major modifications to the flare system at the Wilmington plant in mid-2004 to reduce flaring. Furthermore, in 2008, ConocoPhillips plans to add vapor recovery capabilities to the flare system at the Carson Plant to reduce flaring.

We appreciate the opportunity to submit these comments and we are looking forward to continuing to work with you on rule development.

Sincerely,

Miles T. Heller
Superintendent, Environmental Services

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RESPONSE TO COMMENT NO. 2 – FROM CONOCO PHILLIPS

2-1 The SCAQMD concurs that flares are safety devices and essential to the safe operation of a refinery. Page 1-11 of the Draft EA presents an overview of flares at refineries which includes the following sentence, "Flares are also used as safety devices to reduce the potential for fires and explosions due to unburned gaseous hydrocarbon releases." Further, PAR 1118 specifically allows flaring in response to emergency conditions.

The SCAQMD acknowledges that the refining industry has reduced flare emissions since the adoption of Rule 1118 in 1998. In order to take credit for these reductions in the Air Quality Management Plan (AQMP)/State Implementation Plan (SIP), the SCAQMD must adopt a rule requiring the control of flare emissions. Further, the rule would ensure that current flare emission reductions are permanent and enforceable.