

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Addendum to the November 2005 Final Environmental Assessment for Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares (Tesoro Rule 1118 Compliance Project)

[Final EA Certified November 4, 2005, SCAQMD No. 10265MK]

November 2007

Executive Officer

Barry R. Wallerstein, D.Env.

Deputy Executive Officer

Planning, Rule Development, and Area Sources

Elaine Chang, DrPH

Assistant Deputy Executive Officer

Planning, Rule Development, and Area Sources

Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager

Planning, Rule Development and Area Sources

Susan Nakamura

Prepared by: Environmental Audit, Inc.

Reviewed by: Barbara Radlein - Air Quality Specialist, CEQA
Steve Smith, Ph.D. – Program Supervisor, CEQA
Mike Harris – Senior Deputy District Counsel, SCAQMD
Jay Chen – Senior Air Quality Manager, Engineering and Compliance
Tran Vo – AQACS, Engineering and Compliance
Sawsan Andrawis – Air Quality Engineer II, Engineering and Compliance

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EXECUTIVE OFFICER
BARRY WALLERSTEIN, D.Env.

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FOR PROPOSED AMENDED RULE 1118 – CONTROL OF EMISSIONS FROM
REFINERY FLARES
(TESORO RULE 1118 COMPLIANCE PROJECT)**

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1.0 INTRODUCTION

In February 1998 the South Coast Air Quality Management District (SCAQMD) Governing Board adopted Rule 1118 – Control of Emissions From Refinery Flares, 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 further 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.

On November 4, 2005, the SCAQMD Governing Board approved amendments to Rule 1118, which established a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions already achieved. The proposed amendments: prohibited the flaring of vent gases except during emergencies, shutdowns/startups, turnarounds and essential operational needs; required submittal of equipment and process descriptions; required owners/operators of affected facilities to analyze the specific cause of major flaring events; required affected facilities that exceed the performance targets to develop and implement flare management plans to minimize emissions; and required affected facilities to meet emission performance targets by certain dates. In addition, the amendments to Rule 1118 established facility-specific performance targets which trigger mitigation fees in the event these emission thresholds are exceeded.

As lead agency, the SCAQMD prepared an Environmental Assessment (EA), which is a substitute document for a negative declaration (CEQA Guidelines §15252), 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.). The Final EA for Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares (November 2005 Final EA) evaluated the impacts of implementing amendments to Rule 1118 at refineries, sulfur recovery plants, and hydrogen plants. The November 2005 Final EA was certified on November 4, 2005.

Modifications are required to the Tesoro Refinery (formerly Shell Los Angeles Refinery) flare system to comply with Rule 1118. The Tesoro Rule 1118 Compliance Project will include the installation of a new Flare Gas Recovery (FGR) system to improve system reliability and expand capacity to recover vent gases during emergencies, process upsets, and some unit shut downs and start ups. Further, additional compression capacity is also proposed.

The SCAQMD has evaluated the proposed changes to the Tesoro Refinery (as detailed in Section 5.2 of this Addendum) and determined that the proposed modifications to the flare system do not create any new significant adverse impacts or make substantially worse any existing significant

adverse impacts identified in the November 2005 Final EA. Only minor additions or changes are necessary to make the November 2005 Final EA adequate for the proposed project. Therefore, when considering the effects of the Tesoro Rule 1118 Compliance Project, the SCAQMD has concluded that an Addendum to the November 2005 Final EA is the appropriate document to be prepared in accordance with CEQA (CEQA Guidelines §15164) in order to evaluate potential environmental impacts associated with the Tesoro Rule 1118 Compliance project (referred to herein as the current proposed project).

2.0 BASIS FOR DECISION TO PREPARE AN ADDENDUM

The SCAQMD was the lead agency responsible for preparing the November 2005 Final EA for Rule 1118 and is the public agency that has the primary responsibility for approving the current proposed project. Therefore, the SCAQMD is the appropriate lead agency to evaluate the potential environmental effects of the current proposed project that is the subject of this Addendum.

Based on the analysis of the current proposed project that follows in Sections 6.0 and 7.0, the SCAQMD has concluded that the only environmental area affected by the current proposed project is air quality during the construction phase. The November 2005 Final EA concluded that Rule 1118, as amended, would not generate significant adverse impacts to any environmental topic areas. The current proposed project does not change these conclusions. During the construction phase air quality impacts are expected to remain less than significant, although different types of construction equipment, more construction equipment, and more construction workers are expected to be required for the Tesoro Rule 1118 Compliance Project than evaluated in the November 2005 Final EA. However, the revised construction equipment scenario and associated emissions are not expected to result in significant impacts or alter the conclusions of the November 2005 Final EA, as shown in Subsection 6.2.1 of this Addendum.

The construction impacts were analyzed for each phase of the construction period in the November 2005 Final EA because construction activities and the resulting emissions vary from one phase to another. The months with the peak emissions were included in the November 2005 Final EA. The analysis in the November 2005 Final EA indicated that unmitigated peak daily emissions of carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur oxides (SO_x), and particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀) were expected to be below the construction significance thresholds and, therefore, less than significant.

The construction air quality impacts analysis for the current proposed project includes construction of a new Flare Gas Recovery system and installation of additional compressors. The construction emissions associated with the new Flare Gas Recovery System and compressors have been estimated and the results indicate that peak daily CO, VOC, NO_x, SO_x, and PM₁₀ construction emissions associated with the current proposed project are greater than the peak daily construction emissions evaluated in the November 2005 Final EA (see Section 6.2.1, Table 3); however, the peak construction emissions are expected to be less than significant. It should be noted that no other construction activities at the Tesoro Refinery are expected to occur during the same time as the construction activities associated with the Tesoro Rule 1118 Compliance Project. Thus, no new significant adverse impacts from construction activities are expected from the current proposed project.

Operational emissions are expected to be essentially the same as those in the November 2005 Final EA. The installation of the Flare Gas Recovery system is expected to result in an overall reduction

in flaring events and related emissions associated with the capture, treatment and use of additional vent gas. Therefore, it can be concluded that the current proposed project does not create new significant adverse impacts or substantially increase the severity of impacts previously identified in the November 2005 Final EA. As a result, pursuant to CEQA Guidelines §15164(a-b), this document constitutes an Addendum to the November 2005 Final EA for the Tesoro Rule 1118 Compliance Project. Section 6.0 of this Addendum further explains the basis for the determination to prepare an Addendum.

CEQA Guidelines §15164(a) allows a lead agency to prepare an Addendum to a Final EA if all of the following conditions are met.

- Substantial changes with respect to the circumstances under which the project is undertaken do not require major revisions to the previous Final EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
- No new information becomes available which shows new significant effects or significant effects substantially more severe than previously discussed.
- The project proponent agrees to adopt mitigation measures which are different from those analyzed in the previous EIR that would substantially reduce one or more significant effects on the environment.
- Only minor technical changes or additions are necessary to make the Final EIR under consideration adequate under CEQA.
- The changes to the Final EIR made by the Addendum do not raise important new issues about the significant effects on the environment.

The current proposed project will result in no new significant adverse effects or substantially increase the severity of effects previously identified. Further, the current proposed project consists of only minor technical changes to the November 2005 Final EA that do not raise important new issues about the previously analyzed significant environmental effects. Thus, the current proposed project meets all of the conditions in the CEQA Guidelines for the preparation of an Addendum.

3.0 BACKGROUND CEQA DOCUMENTS

The activities associated with the impacts of implementing Rule 1118 were evaluated sequentially in the following CEQA documents. Summaries of each of these CEQA documents are provided below. The November 2005 Final EA can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or it can be downloaded from the SCAQMD's CEQA Webpages at the following Internet address:

http://www.aqmd.gov/ceqa/documents/2005/aqmd/finalEA/FEA_1118.doc

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. Proposed Rule 1118 was concluded to be exempt from CEQA pursuant to CEQA Guidelines §15262 – Feasibility and Planning Studies, since Rule 1118 was primarily comprised of data collection for possible future actions.

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 progress in reducing emissions since Rule 1118 was adopted, flare emissions, especially SO_x, were substantial. The report recommended amending Rule 1118 in order to require minimization, and treatment 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.

Draft Environmental Assessment for Proposed Amended Rule 1118 - Control of Emissions from Refinery Flares (SCAQMD June 2005): The Draft EA for the proposed amendments to Rule 1118 was circulated for a 30-day public review and comment period from June 30, 2005 to July 29, 2005. The Draft EA included a project description, project location, an environmental checklist, and a discussion of potential adverse environmental impacts. The Draft EA concluded that no significant adverse impacts were expected due to implementation of the proposed amendments to Rule 1118.

Final Environmental Assessment for Proposed Amended Rule 1118 - Control of Emissions from Refinery Flares (SCAQMD October 2005): The Final EA was prepared by revising the Draft EA to incorporate applicable updated information and changes due to responses to comments received on the Draft EA. Three comment letters were received on the Draft EA. The Final EA contained comment letters and responses to comments received on the Draft EA. The changes included in the Final EA did not constitute substantial new information relating to the environmental analysis or mitigation measures. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation of the Draft EA was not necessary since the information provided did not result in new avoidable significant effects. The Final EA was certified on November 4, 2005.

4.0 PROJECT LOCATION

Rule 1118 applies to the area over which the SCAQMD has jurisdiction. 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).

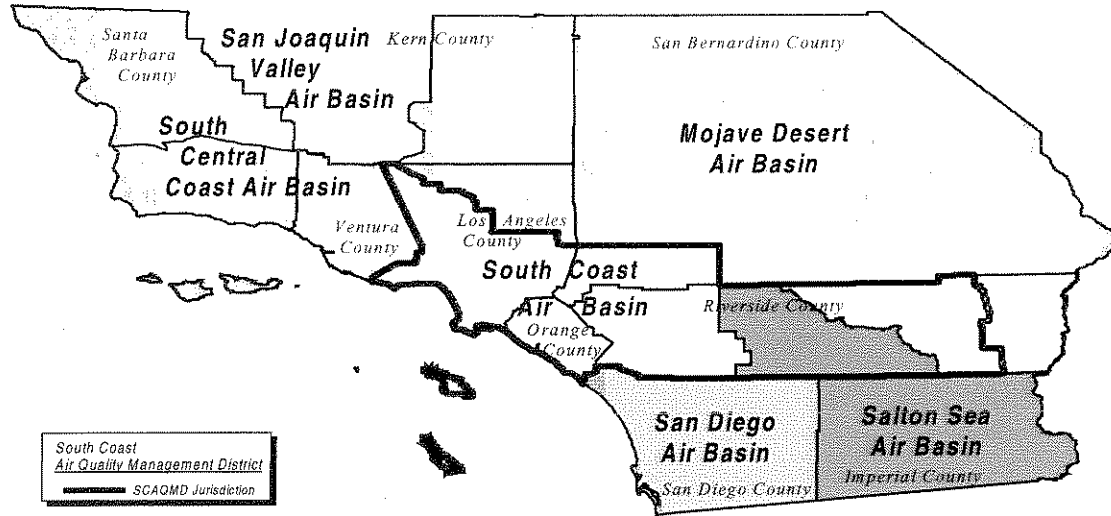
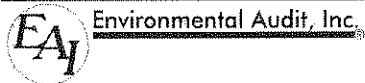
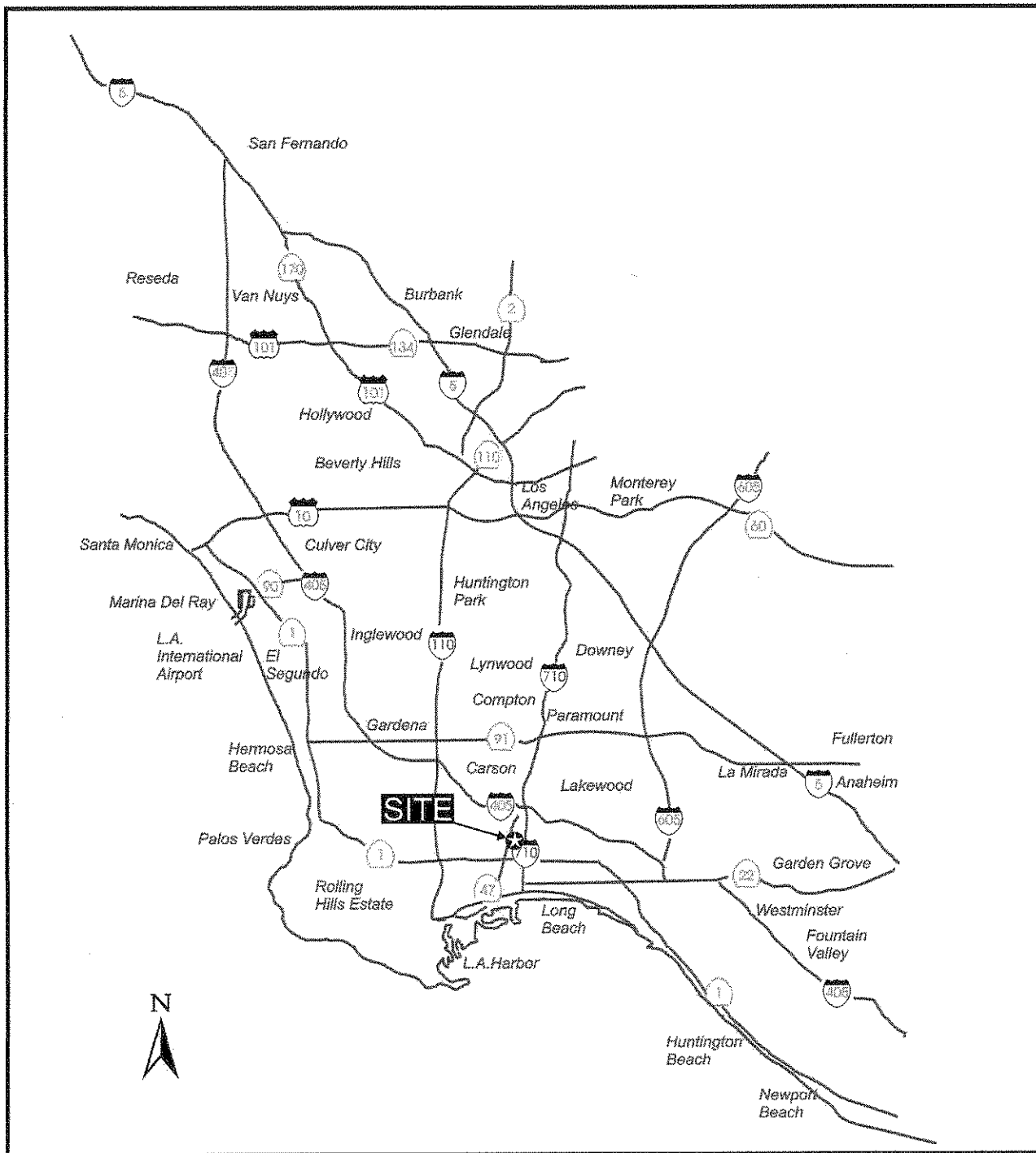


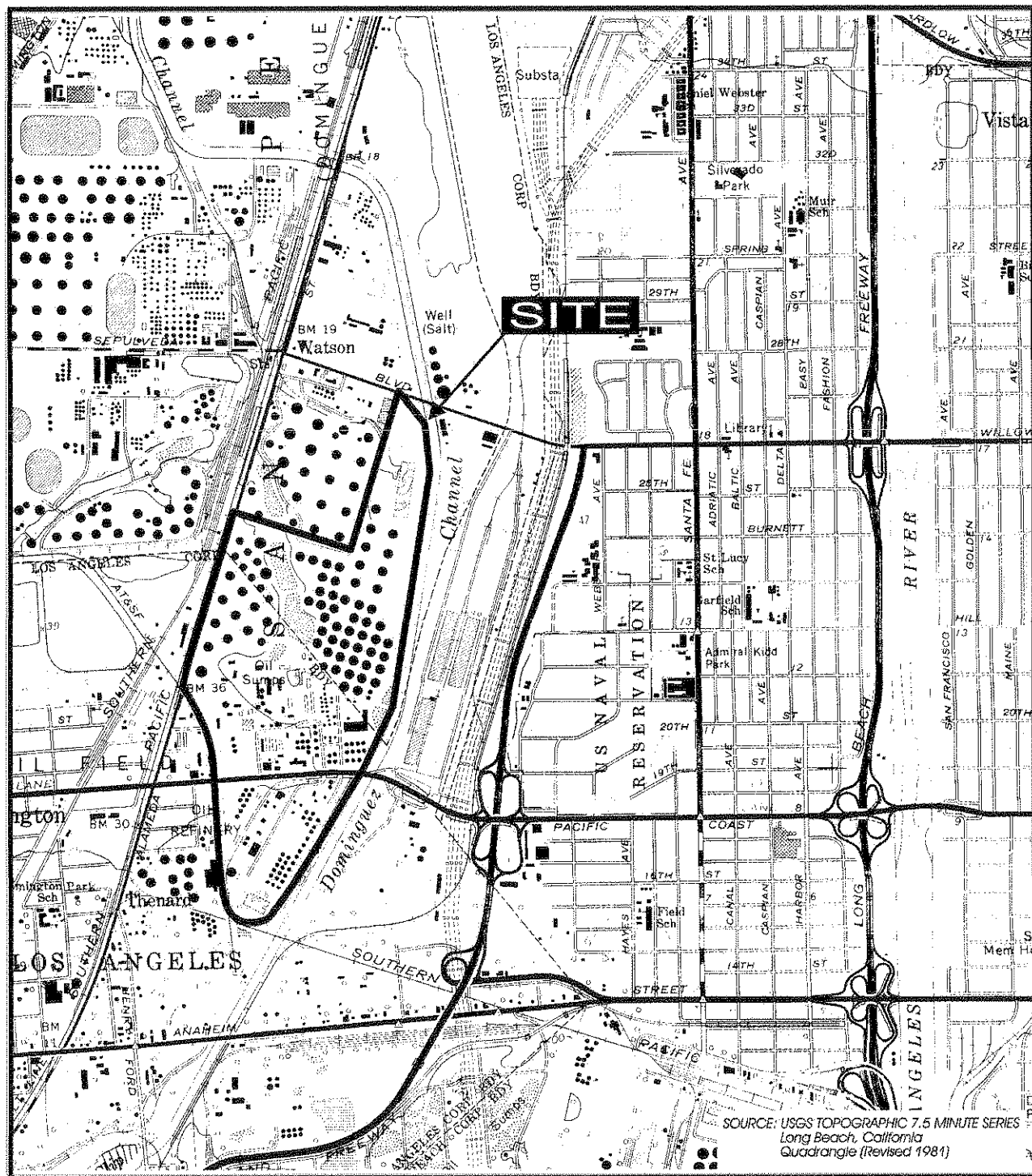
FIGURE 1
Southern California Air Basins'
Boundaries and SCAQMD Jurisdiction

The currently proposed project includes modifications to the Tesoro Refinery (formerly Shell Los Angeles Refinery) which is located at 2101 East Pacific Coast Highway in the Wilmington district of the City of Los Angeles. Figures 2 and 3 show the regional and site locations of the Refinery. The Refinery occupies about 300 acres of land, with the larger portion located within the jurisdiction of the City of Los Angeles and the smaller portion located within the City of Carson. The Refinery is bounded to the north by Sepulveda Boulevard, to the west by Alameda Street, to the south by the Southern Pacific Railroad tracks, and to the east by the Dominguez Channel. The Refinery is bisected by Pacific Coast Highway, with the larger portion of the Refinery to the north of Pacific Coast Highway and the smaller portion to the south. The Refinery and all adjacent areas are zoned for heavy industrial use. The closest residential area is about one-quarter mile east of the Refinery in the City of Long Beach.

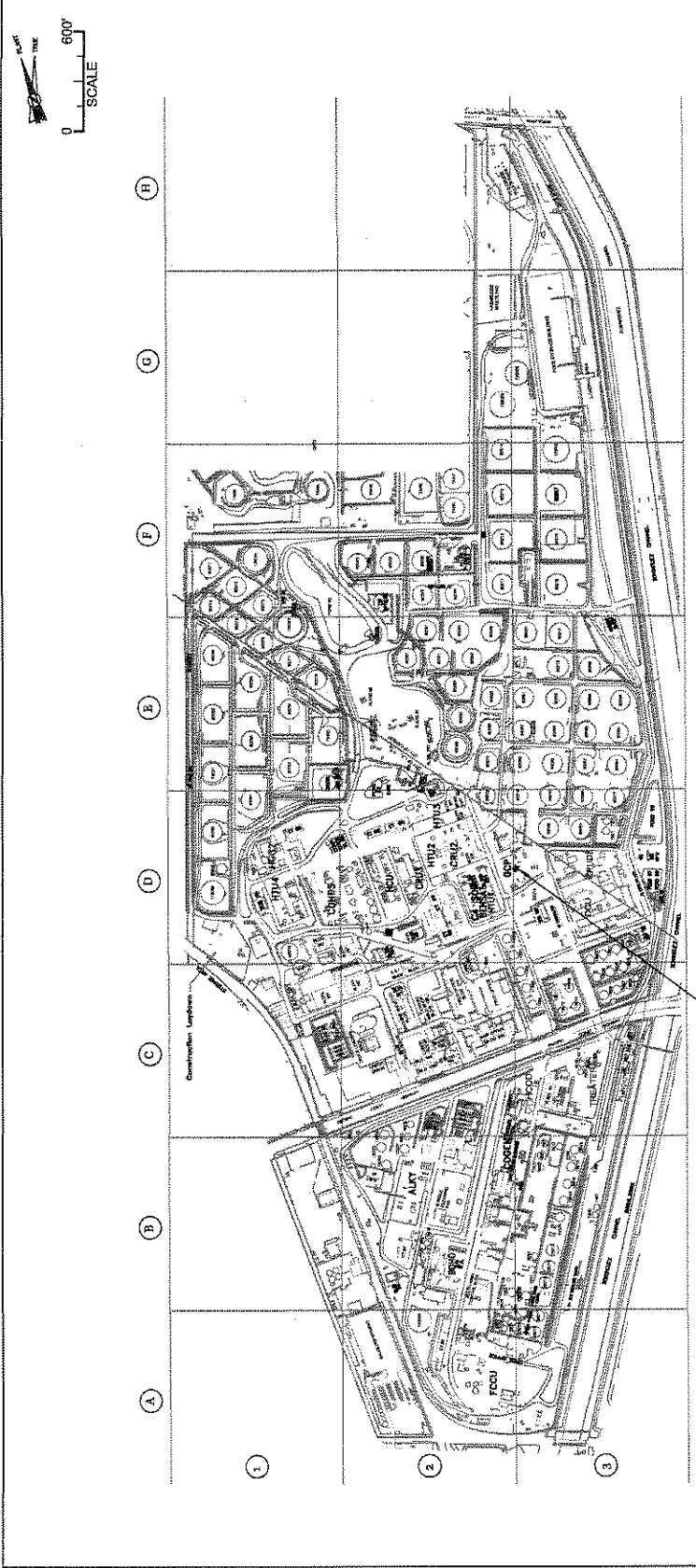
With regard to the equipment that will be affected by the proposed project, the location of the new fuel gas recovery system is shown in Figure 4.



REGIONAL MAP TESORO REFINERY



SITE LOCATION MAP
TESORO REFINERY



LOCATION OF NEW
FG RECOVERY SYSTEM

ENVIRONMENTAL AUDIT, INC.
 1000 - A ORTEGA WAY • PLACENTA, CA 92870-7125
 714/632-8521 • FAX 714/632-6754



REFINERY PLOT PLAN

DATE CREATED	02/03/04
TRAWN BY	M.R.
CHECKED	LAST REV
M.R.B.	09/08/07
SIZE	
FILE NAME	17x411
1:\24855\Refinery Plot Plan (rev. 3)	

TESORO REFINERY

FIGURE 4

5.0 PROJECT DESCRIPTION

5.1 Project as Analyzed in November 2005 Final EA

Summary of Rule 1118 Requirements: Rule 1118 establishes a regulatory framework that seeks to control and minimize future flare emissions as well as preserve emission reductions. Rule 1118: contains provisions that: (1) prohibit the flaring of vent gases except during emergencies, shutdowns/startups, turnarounds and essential operational needs; (2) require submittal of equipment and process equipment information; (3) require owners/operators of affected facilities to analyze the specific cause of major flaring events; (4) require affected facilities that exceed the performance targets to develop and implement flare management plans to minimize emissions; and (5) require affected facilities to meet emission performance targets by certain dates. In addition, Rule 1118 contains facility-specific performance targets which trigger mitigation fees in the event that the emission thresholds are exceeded.

The following requirements became effective upon adoption of the November 2005 amendments to Rule 1118:

- All flares in operation must have pilot flames present at all times.
- 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 the United States Environmental Protection Agency (US EPA) Method 22 (40 Code of Federal Regulations (CFR), Part 60, Appendix A).
- Annual acoustical or temperature leak survey of all pressure relief devices (PRDs) connected to flares.
- All facilities must conduct a specific cause analysis 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.
- 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 became 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 became 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 that an extension is necessary due to operational needs.

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

- Beginning with year 2006 – 1.5 tons per million barrels of crude oil processing capacity, calculated as an average over one calendar year.
- Beginning with year 2008 – 1.0 ton per million barrels of crude oil processing capacity, calculated as an average over one calendar year.
- Beginning with year 2010 – 0.7 ton per million barrels of crude oil processing capacity, calculated as an average over one calendar year.
- Beginning with year 2012 – 0.5 ton per million barrels of crude oil 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 mitigation fees. See Chapter 1 of the November 2005 Final EA for a more detailed project description.

Rule 1118 affects seven petroleum refineries, one sulfur recovery plant and one hydrogen production plant in the district. The inventory of flares in the district includes a total of eight facilities and 27 flares (four clean service and 23 emergency/general service).

Facility Modifications Required to Comply with Rule 1118 Requirements: The November 2005 Final EA recognized that different facilities would be impacted differently by the amendments to Rule 1118. On a worst-case basis, the November 2005 Final EA assumed that a facility would be required to install a typical flare gas recovery system that includes a recovery compressor, treatment, fuel gas system, flare and process heaters/boilers (see Figure 5 and November 2005 Final EA, page 1-14). Figure 5 illustrates a typical flare gas recovery system (simplified). Although the project description in the November 2005 Final EA is general in nature, it would include the proposed new FGR system at the Tesoro Refinery, which consists of the installation of five new compressors and the use of existing treatment, flare, and process heaters/boilers.

5.2 Current Proposed Project

Tesoro is proposing modifications to the flare system to comply with Rule 1118. The proposed modifications will recover flare gas during emergencies, process upsets, and some unit shut downs and start ups.

The Tesoro Rule 1118 Compliance Project will include the installation of a new FGR system that will be primarily used to recover the refinery vent gas baseload in the Main Flare Header to improve system reliability and expand capacity to recover vent gases during emergencies, process upsets, and some unit shut downs and start ups. The proposed project includes installing 300,000 standard cubic feet per hour (SCFH) of compression capacity, which will require four compressors, each 60,000 SCFH, for a total of 240,000 SCFH. A fifth compressor (also 60,000 SCFH capacity) will be installed as a maintenance spare so that a routine preventative maintenance program can be conducted without impacting the operation or effectiveness of the FGR system. The design of the new FGR system is based on the expectation that two compressors will be needed for most refinery base load scenarios, two additional compressors will be needed during peak scenarios, and the fifth compressor is a maintenance spare.

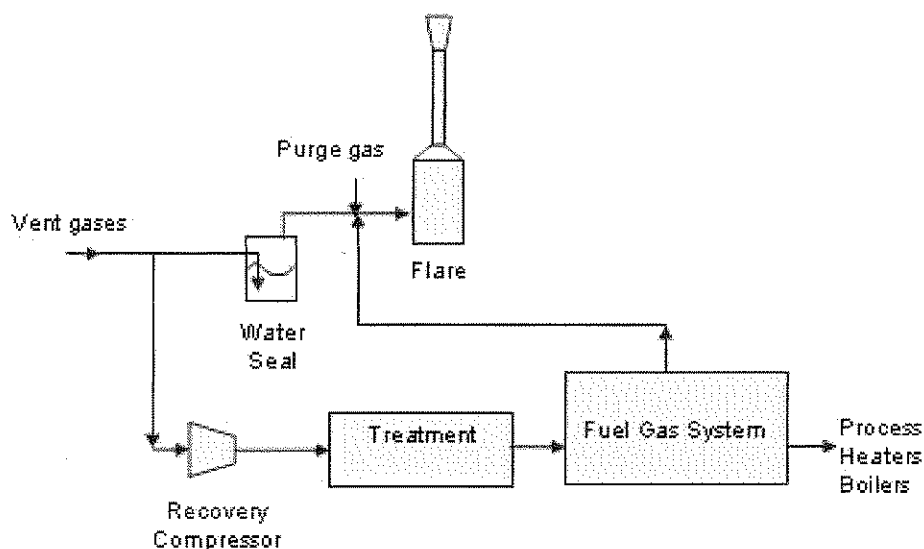


Figure 5 - Typical Flare Gas Recovery System

The existing flare gas compressor (C-137), which collects gas from both the Delayed Coker Unit (DCU) and the Main Flare Header will remain as the primary flare gas recovery for the DCU. The new FGR system will be used to backup the existing flare gas compressor C-137 in the event of a breakdown or when preventative maintenance is required on the DCU. In addition, the existing flare gas recovery compressor C-137 will continue to provide flare gas recovery from the Main Flare Header, as needed, during preventative maintenance or breakdown in the new FGR system.

The new FGR system will consist of five liquid ring compressors that will take suction from the existing Main Flare Header. The compressors will remove gas from the flare header before it builds up enough pressure to blow through a water seal pot to a flare stack. To provide the compressors' liquid seal, re-circulated liquid will be added to the recovered flare gas at the compressor suction. The compressor seals will also be flushed with condensate.

The recovered flare gas pressure will be raised to 100 pounds per square inch gauge (psig) by the compressors. The recovered flare gas will then pass through separators to separate the ring liquid. The ring liquid, with condensate as make-up via seal flush, will be cooled and re-circulated to the compressor suctions. Excess condensed water will be routed to the refinery sour water system. During periods of heavy molecular weight flare gas recovery, 10 to 20 gallons per minute (gpm) of an oil/water mixture are expected to accumulate in the separators and require routing to the overhead accumulator at the DCU.

The recovered flare gas will then flow through a trim cooler to an existing amine contactor column, where hydrogen sulfide (H₂S) will be removed from the gas by contact with lean amine solution. The amount of lean amine solution circulating in the system, will not increase. The H₂S concentration in the existing amine column (grain loading) will increase slightly, but remain within the design capacity of the unit.

The H₂S-rich amine will be sent to the existing Sulfur Recovery Plant (SRP), where the H₂S will be removed and the amine will be regenerated and re-circulated. The increased H₂S to the SRP is expected to increase the sulfur production by approximately 12 tons per year or about 0.033 ton per day. The current load at the SRP is 240 tons per day. The proposed increase in load can be handled by the existing SRP.

The treated recovered flare gas will then be sent to the plant fuel gas mix drum through a pressure control valve for use as refinery fuel gas in existing refinery heaters and boilers.

6.0 IMPACT ANALYSIS

This section presents a summary of the construction air quality impact analysis contained in the November 2005 Final EA, as well as the analysis of the impacts of the current proposed project. Construction air quality impacts are summarized here because this is the only environmental topic area affected by the current proposed project.

Impacts are divided into four classifications: Unavoidable Adverse Impacts; Potentially Significant, but Mitigable Impacts; Less Than Significant Impacts; and Beneficial Impacts. Significant unavoidable adverse impacts are significant impacts that require Findings pursuant to CEQA Guidelines §15091 and a Statement of Overriding Considerations to be issued per CEQA Guidelines §15093 if the project is approved. Potentially Significant, but Mitigable Impacts are adverse impacts that can be feasibly mitigated to less than significant levels. Pursuant to CEQA Guidelines §15091, findings are required only if impacts are significant. If an impact is mitigated to insignificance, findings are not required. Less than significant impacts may be adverse, but do not exceed any significance threshold levels and do not require mitigation measures. Beneficial impacts reduce existing environmental problems or hazards.

6.1 Summary of Impacts in the November 2005 Final EA

6.1.1 Air Quality

Construction Impacts

The amendments to Rule 1118 as analyzed in the November 2005 Final EA do not specifically require controls which would trigger construction activities. The amendments 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 values; enhance monitoring and reporting procedures to improve data accuracy; establish performance goals (emission limits) for the years 2006, 2008 and 2010; and prepare a Flare Management Plan.

Based on input from refinery operators, the “worst-case” scenario would be installing a flare gas recovery/ treatment system to reduce flare emissions. As a result, the November 2005 Final EA included the assessment of construction emissions associated with installing a single flare gas recovery/treatment system (see Table 1) (see Appendix B of the November 2005 Final EA for the detailed calculations of construction emissions).

The construction scenario assumed three phases: Phase I – Site Preparation; Phase II – Equipment/Materials Delivery; and Phase III – Equipment Installation. The analysis assumed that construction activities would be focused primarily above ground, with minimal surface disturbance. Phase I – Site Preparation, represents the peak “worst-case” day for PM₁₀ and SO_x 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 relevant 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 relevant SCAQMD significance thresholds in any of the three phases, either individually or in combination with the other phases. Table 1 summarizes the construction emissions by phase.

TABLE 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

Source: November 2005 Final EA

The air quality analysis of construction emissions concluded that the daily criteria pollutant emission increases associated with the implementation of amended Rule 1118 were less than all applicable SCAQMD significance thresholds and, therefore, not significant. Since the amendments to Rule 1118 were not expected to result in project-specific significant air quality impacts, no cumulative impacts were expected (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)).

Operational Impacts

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

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

provided that the estimated 53 percent in emission reductions discussed in Table 2 are adequately controlled.

TABLE 2

Baseline and Rule 1118 Estimated Operational 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	0.12	40	0.11	224	0.61	12	0.03	370	1.01
Remaining Emissions Year 2010	37	0.1	35	0.09	199	0.55	11	0.03	365	1.0

* The totals have been rounded.

6.2 Analysis of Impacts of the Current Proposed Project

The Tesoro Rule 1118 Compliance Project will include the installation of a new FGR system to improve system reliability and expand capacity to recover vent gases during emergencies, process upsets, and some unit shut downs and start ups. Further, additional compression capacity is also proposed to be installed.

6.2.1 Air Quality Impacts

Construction Impacts

The November 2005 Final EA states that “the ‘worst-case’ scenario would be installing a flare gas recovery/treatment system to reduce flare emissions” and included emission estimates for construction activities (see Table 3). Construction emission estimates have been developed specifically for the Tesoro Rule 1118 Compliance Project and are shown in Table 3 (see Appendix A for more detailed emission calculations), along with the construction emissions in the November 2005 Final EA. Both the construction emissions in the November 2005 Final EA and the construction emissions for the Tesoro Rule 1118 Compliance Project are below the SCAQMD significance thresholds. Therefore, construction emissions are less than significant in both cases.

Operational Impacts

As discussed in Section 6.1, operational emissions associated with the amendments to Rule 1118 will have no affect on operational emissions at the Tesoro Refinery other than to reduce emissions from flaring activities. Rule 1118 contains procedural requirements and performance goals intended to reduce flaring emissions and overall operational emissions (both criteria and toxic air contaminants) at the Tesoro Refinery are expected to decrease (see Table 4). Therefore, no significant adverse air quality impacts are expected due to operation of the new flare gas treatment system.

TABLE 3

Comparison of Peak Day⁽¹⁾ Daily Construction Emissions

ACTIVITY	CO	VOC	NOx	SOx	PM10	PM2.5
November 2005 Final EA ⁽²⁾	30	7	43	2.8	5.18	--
Tesoro Rule 1118 Compliance Project ⁽³⁾	83.5	22.3	85	0.1	31.9	16.9
SCAQMD Threshold Level	550	75	100	150	150	55
Significant?	NO	NO	NO	NO	NO	NO

- (1) Peak day construction emissions are for the highest day for each pollutant. The peak day for CO and VOC emissions is expected to be during Phase 2/3 (overlap of construction of the compressors/piping and retrain of the amine absorber) of project construction. The peak day for NOx and SOx emissions is expected to be during Phase 2 (construction of the compressors and piping) of project construction. Finally, the peak day for PM10 and PM2.5 is expected to be during Phase 1 (Excavation, site preparation, and foundation construction) of project construction.
- (2) November 2005 Final EA, Table 2-5, page 2-11. PM2.5 was not analyzed in the November 2005 Final EA.
- (3) Detailed emission calculations are provided in Appendix A.

TABLE 4

Estimated Emissions Reductions Associated with Reduced Flaring From the Tesoro Refinery

	Flow (mmcf)	Tons per Year					
		PM10	NOx	VOC	CO	SOx	GHGs ⁽¹⁾
2004 Calendar Year							
Actual Reported	191.45	2.0	5.0	4.7	27.5	157.6	2,938.8
Estimated with New FGR	147.53	1.5	3.9	3.6	21.1	141.2	2,319.6
Estimated Reduction	43.92	0.5	1.1	1.1	6.4	16.4	690.6
2005 Calendar Year							
Actual Reported	157.92	1.7	4.4	4.1	24.0	12.1	2,554.4
Estimated with New FGR	102.69	1.1	2.9	2.7	15.9	8.8	1,614.6
Estimated Reduction	55.23	0.6	1.5	1.4	8.1	3.3	868.4

- (1) GHGs = greenhouse gas emission equivalents, which include carbon dioxide and methane.

Global Warming and Greenhouse Gas Emissions

Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. The six major types of GHG emissions are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHG emissions absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect."

The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHG emissions in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (e.g., combustion of gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHG emissions. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (CEC, 2004). Further, approximately 80 percent of GHG emissions in California are from fossil fuel combustion (e.g., gasoline, diesel, coal, etc.).

Operational and construction emissions for the existing project were evaluated in the November 2005 Final EA. At the time, the SCAQMD had not established any policies or methodologies for analyzing greenhouse gas (GHG) emissions. The currently proposed project modifications are not expected to generate additional GHG emissions as explained in the following paragraphs.

Construction emissions associated with the currently proposed project include emissions associated with various construction equipment. The construction emissions project include emissions from construction equipment including backhoe, compressor, forklifts, welding machines, cranes, and dump/concrete trucks. Therefore, the construction equipment and related emissions associated with the currently proposed project are similar to the scope of the analysis in the November 2005 Final EA and less than significant. Further, emissions from construction-related equipment will cease when construction activities have been completed. Therefore, the GHG emissions are also within the scope of the previous analysis.

The operation of the currently proposed project is not a source of GHG emissions. The Tesoro Rule 1118 Compliance Project will recover flare gas during emergencies, process upsets, and some unit shut downs and start up, which in turn will reduce emissions by reducing the potential for flaring events (see Table 4). Further, no new combustion sources are included in the proposed project. Therefore, the proposed project will result in an overall reduction of combustion emissions, so no GHG emissions are expected.

7.0 ADDITIONAL TOPICS FOUND NOT TO BE POTENTIALLY SIGNIFICANT

Section 7.0 discusses the remaining areas found not to be potentially significant in both the November 2005 Final EA and in this Addendum.

7.1 Aesthetics

November 2005 Final EA: Rule 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. The amendments to Rule 1118 did 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 Rule 1118 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 Rule 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 smoke emissions associated with flare events.

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

In summary, potential adverse aesthetics impacts associated with implementation of the amendments to Rule 1118 are less than significant.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in aesthetic impacts that were evaluated in the November 2005 Final EA. The new flare treatment system will be constructed within the confines of the existing Refinery (see Figure 4), which is surrounded by other industrial equipment and other industrial facilities. The equipment associated with the new flare gas treatment system will be located near ground level and will not be discernible from existing equipment or visible to the surrounding community. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse aesthetic impacts.

7.2 Agricultural Resources

November 2005 Final EA: Rule 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 existing affected facilities. The amendments to Rule 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 Rule 1118 will be conducted within the boundaries of the existing affected facilities.

Based on the preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on agricultural resources.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in agricultural impacts that were evaluated in the November 2005 Final EA. The modifications associated with the revised project are located within the existing boundaries of the Refinery and no agricultural resources are located within the Refinery. No construction activities are required outside the boundaries of the existing Refinery. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA and the proposed project will not cause significant adverse impacts to agricultural resources.

7.3 Biological Resources

November 2005 Final EA: Implementing the amendments to Rule 1118 will not have a direct impact on candidate, sensitive, or special status species, or the habitat within which they live. Rule 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 existing affected facilities, and any modifications of equipment or processes will be conducted within the boundaries of an existing

industrial 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.

Rule 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, the amendments to Rule 1118 will not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, as the rule will not require any land use changes which would conflict with any local policies protecting biological resources or habitat conservation plans.

Based on the preceding discussion, the amendments to Rule 1118 will not have a significant adverse impact on biological resources.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in biological impacts that were evaluated in the November 2005 Final EA. The modifications associated with the Tesoro Rule 1118 Compliance Project are located within the existing boundaries of the Refinery, which is void of sensitive biological resources. The construction activities associated with the proposed project will be limited to areas where grading has already occurred and will not require removing or affecting biological resources in any way. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to biological resources.

7.4 Cultural Resources

November 2005 Final EA: The amendments to Rule 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 Rule 1118 would occur within the boundaries of these existing affected facilities, which have been previously disturbed, and predominantly paved or covered with gravel. Further, Rule 1118 is not expected to disturb any human remains because the modifications will be located within the confines of existing industrial facilities.

Based on the preceding discussion, the amendments to Rule 1118 will not have a significant adverse impact on cultural resources.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in impacts to cultural resources that were evaluated in the November 2005 Final EA. The modifications associated with the revised project are still located within the existing boundaries of the Refinery, and no archaeological, historical, or paleontological resources are known to be located within the existing operational portions of the Refinery. The construction activities associated with the Tesoro Rule 1118 Compliance Project will be limited to areas that have already been graded and additional grading that could impact subsurface resources is not expected.

Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to cultural resources.

7.5 Energy

November 2005 Final EA: The amendments to Rule 1118 do not require any action which would conflict with an adopted energy conservation plan or violation of any energy conservation standard. Rule 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 existing affected facilities. The primary effect of the amendments to Rule 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.

The amendments to Rule 1118 are 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. Rule 1118 does not include requirements causing a substantial demand for electricity or other form of energy.

The amendments to Rule 1118 do not require the construction of any building or structure that would require substantial additional power or natural gas resources. The amendments to Rule 1118 may involve 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 the amendments to Rule 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. As a result, the amendments to Rule 1118 are not expected to conflict with energy conservation plans, or result in the need for new or substantially altered power or natural gas systems. Since Rule 1118 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on energy.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in energy impacts to those that were evaluated in the November 2005 Final EA. The modifications associated with the revised project are not expected to require electricity or natural gas to operate. The only use of energy resources would be diesel fuel to operate construction equipment during the construction phase. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to energy resources.

7.6 Geology and Soils

November 2005 Final EA: 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 implementation of Rule 1118 would be required to conform to the UBC and all other applicable state and local codes. Although new equipment may be added to the affected 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, the amendments to Rule 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, Rule 1118 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.

The existing facilities subject to the amendments to Rule 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.

Septic tanks or other similar alternative wastewater disposal systems are typically associated with small residential projects in remote areas. The amendments to Rule 1118 did not include any requirements that generate construction of residential projects in remote areas. Rule 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 the amendments to Rule 1118 would occur at existing facilities where sewerage systems are already connected to local or regional wastewater systems.

Based on the preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on geology and soils.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes to geology and soils impacts that were evaluated in the November 2005 Final EA. The modifications associated with the proposed project are still located within the existing boundaries of the Refinery, and will require building permits from the City of Los Angeles. The construction activities associated with the Compliance Project will be limited to a small area in the center of the Refinery that has already been graded. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to geology and soils.

7.7 Hazards and Hazardous Materials

November 2005 Final EA: There are no provisions in the amendments to Rule 1118 that would increase the hazardous materials currently transported, stored, used, or generated by the affected facilities. Implementation of the amendments to Rule 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 Rule 1118 for owners/operators to analyze the cause of major flaring events will be a safety benefit and reduce potential hazard impacts at the affected facilities.

The purpose of Rule 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. Rule 1118 will be implemented at existing facilities located in industrial/commercial areas, and Rule 1118 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.

There are no provisions in Rule 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.

The proposed rule amendments will be implemented at existing affected facilities located in industrial/commercial areas devoid of wildlands. Further, Rule 1118 will affect existing facilities, and there are no risks associated with wildland fires at these existing facilities. As a result, it is 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.

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.

Based on the preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on hazards and hazardous materials.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes to hazard impacts that were evaluated in the November 2005 Final EA. The modifications associated with the Rule 1118 do not require the use of any additional hazardous materials and would not result in increased storage or transport of hazardous materials. The current proposed project is expected to result in a reduction in emissions, including potentially hazardous emissions reducing potential exposure to adjacent receptors. The refinery is devoid of wildlands so no wildland fires are expected. Therefore, the Tesoro Rule 1118 Compliance Project will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to hazards.

7.8 Hydrology and Water Quality

November 2005 Final EA: Rule 1118 has little or no direct or indirect affects on existing water or wastewater quality at affected facilities. Rule 1118 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, wastewater quality standards or require the use of ground water. Rule 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 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 amendments to Rule 1118, 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.

Implementation of Rule 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. Rule 1118 is not expected to substantially alter existing drainage patterns or infrastructure and, therefore, will not affect surface runoff.

Rule 1118 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, since it applies to flare emissions at existing petroleum refineries, sulfur recovery plants and hydrogen production facilities, which are located within designated industrial or commercial areas, not subject to flooding.

Based on the preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on hydrology and water quality.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes to hydrology and water quality impacts that were evaluated in the November 2005 Final

EA. The modifications associated with the revised project do not require the use of any additional water, nor will they generate additional wastewater. The construction activities associated with the revised project will be limited to an area of the Refinery that has already been graded and requires limited earth movement for foundations so limited water for fugitive dust control will be required. The proposed project will not result in an increase in paved areas and will not generate additional storm water runoff. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to hydrology and water quality.

7.9 Land Use and Planning

November 2005 Final EA: Since Rule 1118 affects existing facilities within industrial/commercial areas, and any modifications would occur entirely within the boundaries of these affected facilities, implementation of the amendments to Rule 1118 will not physically divide an established community, nor 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. Rule 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on land use and planning.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in land use impacts that were evaluated in the November 2005 Final EA. The modifications associated with the revised project are still located within the existing boundaries of the Refinery, which is zoned for heavy industrial use and currently used as a refinery. The construction activities associated with the proposed project will be limited to areas that have already been graded and will not include construction outside of the existing Refinery boundaries. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the Tesoro Rule 1118 Compliance Project will not cause significant adverse land use impacts.

7.10 Mineral Resources

November 2005 Final EA: There are no provisions in Rule 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 delineated on a local general plan, specific plan or other land use plan. The facilities affected by Rule 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 Rule 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 Rule 1118.

Based on the preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on mineral resources.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in impacts to mineral resources that were evaluated in the November 2005 Final EA. The modifications associated with the Tesoro Rule 1118 Compliance Project are still located within the existing boundaries of the Tesoro Refinery, which is void of mineral resources. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse impacts to mineral resources.

7.11 Noise

November 2005 Final EA: Modifications or changes associated with the implementation of Rule 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 Rule 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 Rule 1118 are not expected to add new sources of noise or vibration to any affected facility. Further, by prohibiting non-emergency flaring events, Rule 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.

In general, the Rule 1118 affects existing facilities and construction activities 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on noise.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in noise impacts that were evaluated in the November 2005 Final EA. The modifications associated with the revised project are still located within the existing boundaries of the Refinery, a heavy industrial area. The construction activities associated with the revised project will include various construction equipment that will be located within the confines of the existing Refinery (see Figure 3), an existing industrial area. The closest residential areas are located over one-quarter mile away (east of the Dominguez Channel and the Terminal Island Freeway) from the proposed construction activities. Therefore, construction noise associated with the Tesoro Rule 1118 Compliance Project is expected to be less than background noise levels at off-site receptors due to the distance from the noise sources. Operation of the new FGR system is not expected to generate noise in excess of the existing noise levels in the Refinery, due to the industrial nature of the existing facility and surrounding industrial facilities. Therefore, the proposed project will not alter the conclusions from the November 2005 Final EA that no significant adverse noise impacts are expected.

7.12 Population and Housing

November 2005 Final EA: Rule 1118 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 Rule 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 Rule 1118. Further, because Rule 1118 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 preceding discussion, the proposed amendments to Rule 1118 will not have a significant adverse impact on population and housing..

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in impacts to population and housing that were evaluated in the November 2005 Final EA. The modifications associated with the Tesoro Rule 1118 Compliance Project are located within the existing boundaries of the Refinery, which is zoned for heavy industrial use and currently used as a refinery. The revised project will not displace any housing. Further, a maximum of 75 construction workers are expected to come from the existing labor pool in southern California. No additional workers are expected to be required to operate the Refinery following completion of the construction phase. Therefore, the Tesoro Rule 1118 Compliance Project is not expected to alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse use impacts to population and housing.

7.13 Public Services

November 2005 Final EA: Rule 1118 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. Rule 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 Rule 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 or county hazmat personnel, fire departments, or police departments. Provisions in Rule 1118 that prohibit non-emergency flare events and require specific 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 Rule 1118 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. Rule 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on public services.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in impacts to public services that were evaluated in the November 2005 Final EA. The

modifications associated with the Tesoro Rule 1118 Compliance Project will be located within the existing boundaries of the Refinery, which maintains 24-hour security and maintains personnel and equipment on-site for fire suppression efforts. The revised project modifications will not introduce new fire hazards or require any additional public services. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse use impacts to public services.

7.14 Recreation

November 2005 Final EA: Rule 1118 does not require any action which will promote or alter existing population growth or densities in the district. Further, there are no provisions in Rule 1118 that would directly or indirectly affect any land use plans, policies or ordinances or regulations. As a result, no provisions of Rule 1118 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, Rule 1118 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on recreation.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in recreation impacts that were evaluated in the November 2005 Final EA. The modifications associated with the Tesoro Rule 1118 Compliance Project are located within the existing boundaries of the Refinery, which is zoned for heavy industrial use and currently used as a Refinery. The construction activities associated with the Tesoro Rule 1118 Compliance Project will be limited to the Refinery and will not impact recreational areas. Further, no additional Refinery workers will be required so no additional recreational facilities will be required. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse recreation impacts.

7.15 Solid/Hazardous Waste

November 2005 Final EA: Rule 1118 will reduce flare emissions at refineries, sulfur recovery plants and hydrogen production plants. There are no provisions of Rule 1118 that would alter the current generation or disposal of solid/hazardous waste at the facilities affected by Rule 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 Rule 1118. Further, Rule 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 preceding discussion, implementation of the amendments to Rule 1118 will not have a significant adverse impact on solid/hazardous waste.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in solid/hazardous waste impacts that were evaluated in the November 2005 Final EA. The Tesoro Rule 1118 Compliance Project is not expected to generate any additional solid or

hazardous waste. Therefore, the proposed modifications will not alter the conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse solid or hazardous waste impacts.

7.16 Transportation and Traffic

November 2005 Final EA: Since Rule 1118 focuses on reducing emissions from flares at existing facilities, within the boundaries of these facilities, Rule 1118 is not expected to adversely affect existing traffic levels, or exceed the level of service (LOS) standards on roadways or at intersections in the vicinity of the affected existing facilities. Further, Rule 1118 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 Rule 1118 is not expected to significantly adversely affect, either individually or cumulatively, circulation patterns on local roadways or the LOS at intersections near affected facilities.

Under the worst-case construction scenario, 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 LOS (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, Rule 1118 is not expected to impact the existing traffic load and capacity of the street system, or exceed the LOS standard established by the county congestion management agency for designated roads or highways.

The analysis of both construction and operational traffic concluded that the daily vehicle trips associated with the implementation of Rule 1118 are less than the SCAQMD’s significance threshold and, therefore, not significant. Based on the preceding discussion, Rule 1118 will not have a significant adverse impact on transportation/traffic.

November 2007 Addendum: The Tesoro Rule 1118 Compliance Project would not result in any changes in transportation/traffic impacts that were evaluated in the November 2005 Final EA. The Tesoro Rule 1118 Compliance Project is not expected to generate any additional trips during project operation because no additional workers on a permanent basis are required. During the construction phase, a maximum of 75 construction workers are expected to be required for a two month period. Because the number of construction vehicle trips is low, the Tesoro Rule 1118 Compliance Project is not expected to impact the existing traffic load and capacity of the surrounding street system, or exceed the LOS standard established by the county congestion management agency for designated roads or highways. Traffic from the proposed project will cease following the construction phase. Therefore, the proposed modifications will not alter the

conclusions from the November 2005 Final EA that the proposed project will not cause significant adverse transportation or traffic impacts.

8.0 CONCLUSIONS

The Tesoro Refinery is proposing the Tesoro Rule 1118 Compliance Project to comply with the recent amendments to Rule 1118. As shown in Sections 6.0 and 7.0, the analysis of the current proposed project indicated that it will not create new significant adverse impacts in any environmental areas analyzed in the November 2005 Final EA or make substantially worse any existing significant adverse impacts. Based on the environmental analysis prepared for the Tesoro Rule 1118 Compliance Project, the SCAQMD has quantitatively and qualitatively demonstrated that the proposed project qualifies for an Addendum to make the previously certified November 2005 Final EA complete.

9.0 REFERENCES

- California Energy Commission (CEC), 2004. California Greenhouse Gas Emission Trends and Selected Policy Options, Climate Change Advisory Committee, October 7, 2004.
- South Coast Air Quality Management District, 2005. Final Environmental Assessment for Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares, SCAQMD No. 10002605MK, October 2005.

10.0 ACRONYMS

CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
DCU	Delayed Coking Unit
EA	Environmental Assessment
EIR	Environmental Impact Report
EMFAC	Emission Factors Model
FGR	Flare Gas Recovery
gpm	gallons per minute
HCFC	haloalkane
H ₂ S	Hydrogen sulfide
LOS	level of service
MDAB	Mojave Desert Air Basin
CH ₄	methane
N ₂ O	nitrous oxide
NO _x	nitrogen oxides
OSHA	Occupational Safety and Health Administration
PFC	perfluorocarbon
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PRD	pressure relief device
psig	pounds per square inch gauge
SCAQMD	South Coast Air Quality Management District
SCFH	standard cubic feet per hour
SF ₆	sulfur hexafluoride
SO _x	sulfur oxides
SRP	Sulfur Recovery Plant
SSAB	Salton Sea Air Basin
UBC	Uniform Building code
US EPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compounds

11.0 GLOSSARY

TERM	DEFINITION
Barrel	42 gallons.
Condensate	Steam that has been condensed back into water by either raising its pressure or lowering its temperature.
Crude Oil	Crude oil is "unprocessed" oil, which has been extracted from the subsurface. It is also known as petroleum and varies in color, from clear to tar-black, and in viscosity, from water to almost solid.
Flares	Emergency equipment used to incinerate refinery gases during upset, startup, or shutdown conditions
Heater	Process equipment used to raise the temperature of refinery streams processing.
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Paleontological	Prehistoric life.
Refinery gas	Gas produced from refinery operations used primarily for fuel gas combustion in refinery heaters and boilers.