

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

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INTRODUCTION

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

GENERAL INFORMATION

Project Title: Shell Wilmington Refinery Rule 1105.1 Compliance Project

Lead Agency Name: South Coast Air Quality Management District

Lead Agency Address: 21865 Copley Drive, Diamond Bar, CA 91765

CEQA Contact Person and Phone Number: Barbara Radlein (909) 396-2716

Project Sponsor's Name: Shell Oil Products US (Shell)

Project Sponsor's Address: 2101 E. Pacific Coast Highway, Wilmington, CA 90744

Project Sponsor's Contact Person and Phone Number: Royann Winchester (310) 522-6125

General Plan Designation: Heavy Industrial

Zoning: M3-1 and MH

Description of Project: The proposed project consists of the removal of three existing dry ESPs and the installation of three new dry ESPs to comply with SCAQMD Rule 1105.1.

Surrounding Land Uses and Setting: Industrial and commercial uses including petroleum refining, hydrogen production facilities, storage tank facilities, distribution terminals, and scrap yards.

Other Public Agencies Whose Approval is Required: City of Los Angeles

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

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

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: February 28, 2006

Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

1.1 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.

1.2 Environmental Setting and Impacts

1. a), b) and c) As discussed in Appendix C, page 2-3 of 2003 Final EA, the potential for aesthetic impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, aesthetics impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

Construction activities at the Shell Wilmington Refinery are not expected to adversely impact views and aesthetics since most of the construction activities, which include the operation of heavy equipment, are expected to occur within the refinery and are not expected to be visible to areas outside the refinery. At Shell, the construction activities associated with the proposed project will occur within the operating portion of the refinery near the southern boundary. Construction activities may be visible to the adjacent industrial areas, e.g., truck terminal, but is consistent with the industrial uses, so no significant adverse aesthetic impacts are expected.

Also discussed in the 2003 Final EA was that new and/or modified Electrostatic Precipitators (ESPs) are expected to be installed and that the ESPs would be about the same size profile as existing equipment within the refinery. For the Shell Wilmington Refinery, three existing ESPs will be replaced with three new ESPs such that the general appearance of the new ESPs is not expected to differ substantially from the existing ESPs. Further, any installation of new or replacement of existing add-on control equipment at the existing facility, either inside or outside the existing structures, would not appreciably change the visual profile of the entire facility. In light of these considerations, no significant adverse impacts to aesthetics are expected from implementing Shell Rule 1105.1 Compliance Project.

1. c) & d) As discussed in Appendix C, on Page 2-4 of the 2003 Final EA, new lighting may be provided as necessary in accordance with applicable safety standards on new structures constructed as a result of complying with Rule 1105.1. If installed, the lighting is expected to be consistent with existing lighting at the refinery. However, the new lights are not expected to create new light and glare impacts to areas adjacent to the refinery due to the industrial nature of the refineries and the fact that refineries are typically lighted at night for safety reasons. Specifically, for the proposed Shell project, three existing ESPs that are currently equipped with some lighting will be replaced with three new ESPs. As the three new ESPs are expected to have similar lighting as the existing ESPs, no new light sources are expected to be required for the operation of the proposed project. Thus, no significant adverse aesthetic impacts are expected from implementing the Shell Rule 1105.1 Compliance Project. For these reasons, implementation of the Shell Rule 1105.1 Compliance Project at the Wilmington Refinery will not alter the conclusions in the 2003 Final EA for Rule 1105.1.

1.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to aesthetics are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to aesthetics. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on aesthetics resources. Since no significant aesthetic impacts were identified, no mitigation is required or proposed.

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

2.1 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.

2.2 Environmental Setting and Impacts

2. a) b) & c) As discussed in Appendix C, page 2-4 of the 2003 Final EA, the potential for agricultural resources impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. All construction and operational activities that would occur as a result of the proposed project at the Shell Wilmington Refinery will occur within the confines of the refinery. The proposed project would be consistent with the heavy industrial zoning for the refinery and there are no agricultural resources

or operations on or near the Shell Wilmington Refinery. Based upon the above considerations, significant agricultural resources impacts are not expected from the Shell Rule 1105.1 Compliance Project.

2.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to agricultural resources are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to agricultural resources. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on agricultural resources. Since no significant agricultural resources impacts were identified, no mitigation is required or proposed.

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

3.1 Significance Criteria

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

3.2 Environmental Setting and Impacts

3. a) & f) As discussed in Appendix C, page of the 2003 Final EA, Rule 1105.1 was implemented to reduce PM10 and ammonia slip (a PM10 precursor emissions from FCCUs pursuant to Control Measure 97CMB-09 in the 1997 AQMP, as amended in 1999. Compliance with Rule 1105.1 is expected to reduce emissions by 0.5 ton per day of solid filterable PM10, and about two tons per day of condensable PM10 by the end of either 2006 or 2008 if an extension is granted. Air quality impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 are expected to significantly contribute to the overall improvement of air quality in the region. The Shell Rule 1105.1 Compliance Project will result in emission reductions of PM10 due to the installation of more efficient ESPs and, therefore, is within the scope of the larger project evaluated in the 2003 EA for Rule 1105.1. The proposed project will assist in the implementation of the SCAQMD's AQMP, and will assist the Basin in moving towards attainment of the state and national ambient air quality standards for PM10.

3. b, c, and d)

Construction Emissions: The construction air quality analysis in the 2003 Final EA (pages 4-3 through 4-10) evaluated two compliance scenarios that could occur at any one of the five affected refineries¹. Compliance scenario #I consisted of the following two phases that could occur at any one of the five affected refineries: Phase Ia - Demolition (of existing ESP), and Phase IIa - Construct New ESP. Compliance scenario #II consisted of the following two phases that could occur at any one of the five affected refineries: Phase Ib – Plate Cleaning (activity that occurs prior to rebuilding an ESP), and Phase IIb - Rebuild Existing ESP. These scenarios do not make any assumptions regarding where (i.e., which refineries) the scenarios may occur, only that two scenarios could occur concurrently. Construction emissions were calculated for each construction phase of both scenarios. It was assumed in the 2003 Final EA that under both compliance scenarios, the first phase construction activities and the second phase construction activities could overlap. It was further assumed that, at any given time, construction activities from each construction phase for both compliance scenarios could overlap. Overlapping emissions from the four phases were summed and compared to the applicable SCAQMD significance threshold. As shown in 2-2, it was concluded in the 2003 Final EA that CO, VOC, and NOx construction emissions would exceed the applicable significance thresholds.

¹ Though there are six refineries that have FCCUs subject to Rule 1105.1, one refinery is already in compliance with Rule 1105.1.

TABLE 2-1
AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \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 ppm (state) 0.053 ppm (federal)	
PM10 24-hour annual geometric mean 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 ppm (state) 9.0 ppm (state/federal))	
<p>^(a) Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.</p> <p>^(b) Ambient air quality threshold based on SCAQMD Rule 403.</p> <p>ppm = parts per million; $\mu\text{g}/\text{m}^3$ = microgram per cubic meter; mg/m^3 = milligram per cubic meter; lbs/day = pounds per day; \geq greater than or equal to</p>		

TABLE 2-2

**MAXIMUM DAILY CONSTRUCTION EMISSIONS FROM
2003 FINAL EA FOR RULE 1105.1***

Peak Construction Activity	CO (lb/day)	VOC (lb/day)	NO_x (lb/day)	SO_x (lb/day)	PM10 (lb/day)
Phase Ia: Demolition	136	29	210	17	12
Phase IIa: Construct New ESP	136	29	210	17	12
Phase Ib: Plate Cleaning	139	29	211	17	12
Phase IIb: Rebuild Existing ESP	167	35	262	22	14
Total Offsite and Onsite from both Phases	578	122	893	73	50
SIGNIFICANCE THRESHOLD	550	75	100	150	150
SIGNIFICANT?	YES	YES	YES	NO	NO

*This table was published originally in the 2003 Final EA on page 4-10 as Table 4-6.

The Shell Rule 1105.1 Compliance Project is consistent with compliance scenario #I as described in the 2003 Final EA which involves demolition of their existing ESPs (Phase Ia) and construction of new ESPs (Phase IIa). Specifically, the Shell Rule 1105.1 Compliance Project consists of the following components which will occur over three phases. Figure 1-4 shows the timeline for the construction activities.

- Phase 1: Construct two new ESPs during a nine-month period. The existing ESPs will continue to operate during this time.
- Phase 2: Demolish two existing ESPs during a three-month period. Note that Phase 1 and Phase 2 will overlap during the turnaround (shutdown period) of the FCCU.
- Phase 3: Construct a third new ESP and demolish the third existing ESP during a three-month period.

The differences between the construction activities evaluated in the 2003 Final EA and the proposed project construction activities are considered minor. For example, instead of calculating construction emissions from overlapping phases of one scenario #I plus one scenario #II (demolish existing ESP and construct a new ESP + clean plates of existing ESP and rebuild existing ESP), the Shell Rule 1105.1 Compliance Project consists of construction emissions from overlapping phases for two scenario #Is. In addition, a slightly different mix of construction equipment is required for the Shell construction activities due to the need for grading. Emission

calculations for the construction activities required to comply with Rule 1105.1 have been completed (see Appendix A) for each phase and are summarized in Table 2-3. *The emission calculations in Appendix A and Table 2-3 also include the expected construction activities for the replacement of a portion of the existing Riser in the FCCU.*

**TABLE 2-3
SHELL PEAK⁽¹⁾ CONSTRUCTION EMISSIONS FOR
COMPLIANCE WITH RULE 1105.1 (lbs/day)**

ACTIVITY	CO	VOC	NO _x	SO _x	PM10
Construction Equipment	235.29	55.64	466.50	44.84	14.97
Vehicle Emissions	63.18	7.07	14.80	0.05	0.39
Fugitive Dust From Construction ⁽²⁾	--	--	--	--	23.72
Fugitive Road Dust	--	--	--	--	5.99
Total Shell Construction Emissions ⁽³⁾	298.7	62.71	481.30	44.89	45.07
Total Shell Mitigated Construction Emissions ⁽⁴⁾	298.7	62.71	415.99	44.89	35.65
SCAQMD Threshold Level	550	75	100	150	150
Significant?	NO	NO	YES	NO	NO

1. Peak emissions for all pollutants except PM10 predicted to occur during January 2007. Peak emissions of PM10 predicted to occur during September 2006.
2. Assumes application of water three times per day.
3. The emissions in the table may differ slightly from those in Appendix A due to rounding.
4. Mitigated emissions assume the use of emulsified diesel fuel or equivalent.

Although there are minor differences between the construction scenario analyzed in the 2003 Final EA and the Shell Rule 1105.1 Compliance Project, the total construction emissions associated with Shell’s construction activities are expected to be less than the construction activities evaluated by the SCAQMD in the 2003 Final EA. Table 2-4 shows that emissions from the Shell Rule 1105.1 Compliance Project are less than peak daily construction emissions calculated in the 2003 Final EA for Rule 1105.1, which evaluated two construction scenarios occurring concurrently. As a result, the Shell Rule 1105.1 Compliance Project does not generate any new significant adverse construction air quality impacts that were not already evaluated and presented in the 2003 Final EA. CEQA Guidelines §15189(a) states, “If preparing a negative declaration, mitigated negative declaration or EIR on the compliance project the lead agency for the compliance project shall, to the greatest extent feasible, use the environmental analysis prepared pursuant to §15187 [Environmental Review of New Rules and Regulations].” Since significant adverse construction air quality impacts were already identified in the 2003 Final EA, which went through a public review and adoption process, and since peak daily construction air quality impacts for the Shell Rule 1105.1 Compliance Project are less than construction air quality impacts calculated in the 2003 Final EA, the proposed project is not expected to create any new significant adverse impacts or make substantially worse existing significant adverse impacts that were identified in the 2003 Final EA. Thus, construction air quality impacts for the Shell Rule 1105.1 Compliance Project are concluded to be less than significant.

TABLE 2-4

**COMPARISON OF SHELL PEAK CONSTRUCTION EMISSIONS FOR COMPLIANCE
WITH RULE 1105.1 VS. MAXIMUM DAILY CONSTRUCTION EMISSIONS FROM
THE 2003 FINAL EA FOR RULE 1105.1 (lbs/day)**

ACTIVITY	CO	VOC	NOx	SOx	PM10
Total Shell Mitigated Peak Construction Emissions ⁽⁵⁾	298.7	62.71	415.99	44.89	35.65
Total 2003 Final EA Construction Emissions from both Phases	578	122	893	73	50
Difference between 2003 Final EA and Shell's Peak Construction Emissions	-279.3	-59.29	-477.01	-28.11	-14.35
SCAQMD Threshold Level	550	75	100	150	150
Significant?	NO	NO	NO	NO	NO

The emission calculations assume the use of an alternative diesel fuel. CARB has established an interim procedure for verification of emission reductions for alternative diesel fuels and has verified four alternative diesel fuels; PuriNOx diesel fuel developed by Lubrizol Corporation, Aquazole fuel developed by Total FinaElf, emulsified diesel developed by Clean Fuels Technology, and O₂Diesel fuel developed by O₂Diesel Inc. PuriNOx fuel has been verified to reduce NOx emissions by 14 percent and particulate emissions by 62.9 percent. Aquazole has been verified to reduce NOx emissions by 16 percent and particulate emissions by 60 percent. Clean Fuels water emulsified diesel fuel has been verified to reduce NOx emissions by 15 percent and particulate emissions by 58 percent. O₂Diesel fuel has been verified to reduce NOx emissions by 1.6 percent and particulate emissions by 20 percent.

The use of alternative diesel fuels is considered to be a feasible mitigation measure and both PuriNOx and O₂Diesel are available locally. PuriNOx or another equivalent alternative diesel fuel will be required because of its greater emission reductions. The supplier will locate a temporary fuel storage tank at the refinery to be used to refuel mobile construction equipment for the proposed project. The distributor will refill the temporary fuel storage tanks periodically as needed during the construction period and will also refuel non-mobile construction equipment, such as large cranes, on-site. Truck trips to refill the temporary fuel storage tanks and to refuel non-mobile equipment have been included in the peak day construction estimates.

Prior to the start of construction of the proposed project, Shell will verify that the construction equipment operates properly when fueled with the PuriNOx or equivalent fuel. Minor modifications to the equipment will be made, if necessary.

Operational Emissions: The objective of Rule 1105.1 is to lower PM10 and ammonia slip emissions from FCCUs. The Shell Rule 1105.1 Compliance Project is identical to the project evaluated in the 2003 Final EA for Rule 1105.1 because implementation is being achieved by

replacing existing ESPs with new ESPs, which was evaluated in the 2003 Final EA for Rule 1105.1. The proposed project would generate about four trucks per year (a maximum of one per day) to remove additional PM10 waste associated with the ESPs. The increase emissions from one truck are minor (about 1.05 lbs/day of CO, 0.16 lb/day of VOC, 1.5 lbs/day of NOx, and 0.03 lb/day of PM10) when compared to the overall emission reductions from the proposed project. Therefore, the overall operational activities will result in a decrease in PM10 emissions by about 160 pounds per day and no significant adverse air quality impacts during project operation are expected. *No change in operational emissions (increase or decrease) is expected due to the replacement of a portion of the existing Riser in the FCCU, as no fugitive components are included with this replacement, and no increase in throughput is expected from the FCCU.*

3. e) As discussed in Appendix C, on Page 2-6 of the 2003 Final EA for Rule 1105.1, the Shell Rule 1105.1 Compliance Project is not expected to create significant objectionable odors, either during construction or during operations. Sulfur compounds (e.g. hydrogen sulfide) are the primary odor sources within refinery operations. As a result of replacing the existing ESPs with new ESPs, the proposed project is expected to remove additional sulfur and sulfur bearing compounds (as particulates) from the refinery process streams and, thus, reduce the potential to create odors.

The proposed project is also expected to reduce ammonia slip by limiting the amount of ammonia injected into the flue gas stream of the FCCUs. According to dispersion estimates, the buoyancy of ammonia and its dilution into the atmosphere would reduce the annual one-hour maximum ground concentration to less than one part per million (ppm) based on an ammonia slip concentration of 10 ppm (SCAQMD, 2003). A concentration of one ppm is well below the odor detection maximum limit. Therefore, no significant odor impacts are expected from the implementation of the proposed project.

3.3 Mitigation Measures

The 2003 Final EA concluded that significant adverse impacts to air quality during the construction phase were expected to occur for CO, VOC, and NOx as a result of refinery projects needed to comply with Rule 1105.1. The following mitigation measures were imposed:

AQ-1 Develop a “Construction Traffic Emission Management Plan” for the proposed project. The plan shall include measures to minimize emissions from vehicles, including but not limited to: scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of five minutes¹.

AQ-2 Suspend the use of all construction equipment during first-stage smog alerts.

AQ-3 Prohibit trucks from idling longer than five minutes².

² Mitigation Measures AQ-1 and AQ-3 originally prohibited idling for longer than 10 minutes. Since that time, state legislation has been adopted that prohibits heavy-duty truck idling for five minutes or more.

SHELL RULE 1105.1 COMPLIANCE PROJECT

AQ-4 Use electricity or alternate fuels for on-site mobile equipment instead of diesel equipment to the extent feasible.

AQ-5 Maintain construction equipment by conducting regular tune-ups and retard diesel engine timing.

AQ-6 Use electric welders to avoid emissions from gas or diesel welders in portions of the project sites where electricity is available.

AQ-7 Use on-site electricity rather than temporary power generators in portions of the project sites where electricity is available.

AQ-8 Diesel powered construction equipment shall use low sulfur diesel, as defined in SCAQMD Rule 431.2, to the maximum extent feasible³.

AQ-9 Prior to use in construction, the project applicant will evaluate the feasibility of retrofitting the large off-road construction equipment that will be operating for significant periods. Retrofit technologies such as particulate traps, selective catalytic reduction, oxidation catalysts, air enhancement technologies, etc., will be evaluated. These technologies will be required if they are certified by CARB and/or EPA and are commercially available and can feasibly be retrofitted onto construction equipment.

In addition to the above mitigation measures, since the completion of the 2003 Final EA, it has been determined that the use of alternative diesel fuels is a feasible mitigation measures and both PuriNOx and O₂Diesel are available locally. The use of PuriNOx or another equivalent alternative diesel fuel, in lieu of Mitigation Measure AQ-8, will be an additional required mitigation measure for the Shell Rule 1105.1 Compliance Project.

The Shell Rule 1105.1 Compliance project will not result in any incremental impacts to air quality nor will the project analyzed in the 2003 Final EA and the currently proposed project cause an overall significant adverse impact on air quality. Therefore, no additional significant adverse air quality impacts are expected due to implementation of the proposed project.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
4. 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,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

³ Since the completion of the 2003 Final EA, all diesel-powered construction equipment will be required to use ultra-low sulfur diesel fuel beginning June 2006.

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) | Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) | Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

4.1 Significance Criteria

The 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.

4.2 Environmental Setting and Impacts

4. a) b) c) d) e) & f) As discussed in Appendix C, page 2-7 of the 2003 Final EA, the potential for biological resources impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, biological resources impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

All construction and operational activities that would occur as a result of the Shell Rule 1105.1 Compliance Project will occur within the confines of the existing refinery. The proposed project would be consistent with the heavy industrial zoning for refineries and there are no biological resources or operations on or near the FCCU at the Shell Wilmington Refinery. Based upon the above considerations, significant biological resources impacts are not expected from the proposed project.

4.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to biological resources are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to biological resources. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on biological resources. Since no significant biological resources impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of a archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

geologic feature?

- d) Disturb any human remains, including those interred outside a formal cemeteries?

5.1 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.

5.2 Environmental Setting and Impacts

5. a) b) c) & d) As discussed in Appendix C, page 2-9 of the 2003 Final EA, the potential for cultural resources impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, cultural resources impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

All construction and operational activities that would occur as a result of the Shell Rule 1105.1 Compliance Project will occur within the confines of the existing refinery. The proposed project would be consistent with the heavy industrial zoning for the refinery and there are no known cultural resources on or near the FCCU at the Shell Wilmington Refinery. Based upon the above considerations, significant cultural resources impacts are not expected from the implementation of Rule 1105.1, and will not be further analyzed in the ~~Draft~~ Final Negative Declaration.

5.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to cultural resources are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any significant adverse impacts to cultural resources. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on cultural resources. Since no significant cultural resources impacts were identified, no mitigation is required or proposed.

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

6.1 Significance Criteria

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

The proposed project conflicts with adopted energy conservation plans or standards.

The proposed 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 proposed project uses non-renewable resources in a wasteful and/or inefficient manner.

6.2 Environmental Setting and Impacts

6. a) & e) As discussed in Appendix C, page 2-10 of the 2003 Final EA, the potential for energy impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, energy impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The proposed project is not subject to any existing energy conservation plans or standards, so it is not expected to conflict with energy plans or standards.

6. b), c) & d) As discussed in Appendix C, on Page 2-10 of the 2003 Final EA, any additional electricity required is typically supplied by each refinery’s cogeneration units or by the local electrical utility, as appropriate, so it is not anticipated that new or substantially altered power utility systems will need to be built to accommodate any additional electricity demands that may be created by the Shell Rule 1105.1 Compliance Project. As discussed in Appendix C, on Page 2-10 of the 2003 Final EA, electrical power may be required for certain construction equipment. This requirement can be met with the existing electrical capacity at each of the refineries. Typically, a minimal amount of natural gas may also be required during construction of the proposed project and can be supplied by either the refineries or the local utility. No significant impacts to electrical or natural gas utilities are expected due to construction activities.

The Shell Rule 1105.1 Compliance Project will replace three existing ESPs with three new ESPs at the Wilmington Refinery. This change is not expected to require additional electricity. No increase in natural gas use is expected for the operation of Shell’s three dry ESPs.

Based upon the above considerations, the energy impacts during the construction and operation phases of the proposed project are expected to be less than significant.

6.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to energy are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to energy. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on energy. Since no significant energy impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
7. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	substantial evidence of a known fault?			
•	Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
•	Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
•	Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

7.1 Significance Criteria

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

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

7.2 Environmental Setting and Impacts

7. a) As discussed in Appendix C, page 2-12 of the 2003 Final EA, the potential for geology and soils impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, geology and soils impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The proposed project is located in a seismically active region. There is the potential for damage to the new refinery structures in the event of an earthquake. New structures must be designed to comply with the Uniform Building Code Zone 4 requirements since the project is located in a seismically active area. The City of Los Angeles is responsible for assuring that the proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The 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 Uniform Building Code basis seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code 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 Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation conditions at the site.

Shell must obtain building permits, as applicable, for all new proposed project structures. Shell shall submit building plans to the local cities for review. Shell must receive approval of all building plans and building permits to assure compliance with the latest Building Code adopted by the local cities prior to commencing construction activities.

Portions of the refinery are located within an area where there has been historic occurrence of liquefaction or existing conditions indicate a potential for liquefaction (California Division of Mines and Geology, 1999). Therefore, there is the potential for liquefaction induced impacts at the refinery since the appropriate parameters for liquefaction exist at the site, including unconsolidated granular soils and a high water table. The Uniform Building Code requirements consider liquefaction potential and establishes more stringent requirements for building foundations in areas potentially subject to liquefaction. Therefore, compliance with the Uniform Building Code requirements is expected to minimize the potential impacts associated with liquefaction. The issuance of building permits from the City will assure compliance with the Uniform Building Code requirements. Therefore, no significant impacts from liquefaction are expected.

Accordingly, the installation of add-on controls at the Shell Wilmington Refinery to comply with Rule 1105.1 is required to conform with the Uniform Building Code and all other applicable

state and local building codes. Thus, removal of the three existing ESPs and installation of three new ESPs would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death is not anticipated.

7. b) As discussed in Appendix C, on Page 2-12 of the 2003 Final EA, since add-on controls will likely be installed at existing refineries, during construction of the proposed project, the possibility exists for temporary erosion resulting from excavating and grading activities, if required. Compliance with SCAQMD Rule 403 – Fugitive Dust, will further minimize the potential for dust erosion during construction. At the Shell Wilmington Refinery, grading activities are expected to be minor since the refinery is generally flat and has previously been graded. New foundations will be provided for the new ESPs, since the existing ESPs will continue to operate while the new ESPs are built. The new foundations will require only minimal grading. No unstable earth conditions or changes in geologic substructures are expected to result from the proposed project.

7. c) As discussed in Appendix C, on Page 2-12 of the 2003 Final EA, since Rule 1105.1 will affect existing facilities, it is expected that the soil types present at the affected facilities will not be further susceptible to expansion. At the Shell Wilmington Refinery, subsidence is not anticipated to be a problem since little excavation, grading, or filling activities will occur. Additionally, the refinery is not prone to landslides or have unique geologic features since it is located in a heavy industrial areas. Finally, as notice in item 7.a), construction of new structures will take into consideration the potential for liquefaction.

7. d) & e) As discussed in Appendix C, on Page 2-12 of the 2003 Final EA, since the proposed project will affect existing refineries located in heavy industrial zones, it is expected that people or property will not be exposed to expansive soils or soils incapable of supporting water disposal. Further, typically each affected refinery has existing wastewater treatment systems that will continue to be used as part of the proposed project.

At the Shell Wilmington Refinery wastewater treatment systems are available to handle wastewater produced by the refinery. The Shell Wilmington Refinery does not use septic systems or alternative wastewater disposal systems. Further, no increase in water use or wastewater generated is expected due to the proposed project. Thus, the proposed project will not adversely affect soils associated with a septic system or alternative wastewater disposal system.

Based upon the above considerations, significant geology and soils impacts are not expected from the Shell Rule 1105.1 Compliance Project.

7.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to geology and soils are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result

in any adverse significant impacts to geology and soils. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on geology and soils. Since no significant geology and soils impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

with an adopted emergency response plan or emergency evacuation plan?

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| h) | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

8.1 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.

8.2 Environmental Setting and Impacts

8. a) & b) As discussed in the 2003 Final EA, on pages 4-13 through 4-17, the potential for hazards and hazardous material impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, hazards and hazardous materials impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The Shell Rule 1105.1 Compliance Project will occur within the confines of the existing refinery. The primary activity of concern with respect to hazards and hazardous materials is the increased amount of PM10 collected by the ESPs and the transportation of the materials to either a recycling or disposal site. The type of additional waste expected to be generated from the proposed project will consist primarily of additional PM10 fines collected by the new ESPs, though the additional materials collected are not expected to present a significant risk to human health or the environment, because the material is expected to be non-hazardous. The additional collected PM10 will continue to be handled in the same manner as currently handled and it will be disposed or recycled at approved facilities. In addition, hazardous materials and hazardous

wastes from the existing refineries are currently managed in accordance with applicable federal, state, and local rules and regulations and, thus, no change to the management practices is expected as a result of the Shell Rule 1105.1 Compliance Project. However, there will be a slight increase of approximately four truck trips per year needed to deliver the additional amount of collected PM10 to recycle or disposal sites, though the increase is not considered a substantial change from the current number of delivery trips. Further, because PM10 materials are already being transported offsite for disposal or reuse, the proposed project will not result in a change in the consequences in the event of an accidental release of this material. Therefore, the increase of four truck trips for the purpose of disposing of or recycling PM10 materials is not considered to be a significant adverse hazard impact.

8. c) As discussed in the 2003 Final EA, beginning on page 4-13, none of the affected refineries are located within one-quarter mile of an existing or proposed school. The Shell Wilmington Refinery is not located within one-quarter mile of an existing or proposed school. Therefore, no potential for impacts from hazardous emissions or the handling of acutely hazardous materials, substances and wastes on schools are expected at the Shell Wilmington Refinery.

8. d) As discussed in the 2003 Final EA, beginning on page 4-13, significant hazard impacts from the disposal/recycling of hazardous materials are not expected. The proposed project will be constructed within the confines of the existing Shell Wilmington Refinery. In 1985, the Regional Water Quality Control Board (RWQCB) adopted Order 85-17 requiring Shell (Texaco at the time) (and 14 other local refineries) to conduct subsurface investigations of soil and ground water. Areas of soil contamination have been detected at the site and remediated, as appropriate. CEQA §21092.6 requires the lead agency to consult the lists compiled pursuant to §65962.5 of the Government Code to determine whether the project and any alternatives are located on a site that is included on such list. The Shell Wilmington Refinery is included on a list compiled by CalEPA under Government Code §65962.5, dated May 6, 1999. The refinery is listed on the May 6, 1999 list because it is on a list of Cleanup and Abatement Orders prepared by the State Water Resources Control Board (Order No. 97-118). For sites that are listed pursuant to Government Code §65962.5, the following information is required:

Applicant:	Shell Oil Products,US
Address:	2101 E. Pacific Coast Highway, Wilmington, California 90744
Phone:	(310) 522-6000
Address of Site:	2101 E. Pacific Coast Highway, Wilmington, California 90744
Local Agency:	Wilmington, City of Los Angeles
Assessor's Book:	Parcel numbers 7315-014-008, 7315-017-005, 7428-007-003
List:	See above.
Regulatory ID No:	19290032, 4B192121001
Date of List:	See above.

Hazardous wastes from the existing refinery are managed in accordance with applicable federal, state, and local rules and regulations. The types of additional waste expected to be generated from the Shell Rule 1105.1 Compliance Project will consist primarily of additional PM10 fines collected by the new EPSs and the additional collected PM10 will continue to be handled in the same manner as currently handled such that it will be disposed/recycled at approved facilities.

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Accordingly, significant adverse hazards and hazardous materials impacts from the disposal/recycling of hazardous materials are not expected from the proposed project.

8. e) & f) As discussed in the 2003 Final EA, beginning on page 4-13, the proposed project will be constructed within the confines of the existing refinery. The Shell Wilmington Refinery is not located within two miles of an airport (either public or private), and is not located within an airport land use plan.

8. g) As discussed in the 2003 Final EA, beginning on page 4-13, the proposed project is not expected to interfere with an emergency response plan or emergency evacuation plan. The Shell Wilmington Refinery has an emergency response plan in effect. However, no modifications to the emergency response plan or the emergency evacuation plan are expected to be required as a result of the Shell Rule 1105.1 Compliance Project because the project consists primarily of removing three existing dry ESPs and replacing them with three new dry ESPs.

8. h) & i) As discussed in the 2003 Final EA, beginning on page 4-13, the proposed project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. Although, additional natural gas may be used during the construction phase of the proposed project, no substantial or native vegetation exists on or near the refinery's processing units so the proposed project is not expected to expose people or structures to wild fires. Therefore, no significant increase in fire hazards is expected at the Shell Wilmington Refinery.

Based on the above considerations, the potential hazards and hazardous materials impacts related to the operations at the Shell Wilmington Refinery, and the transport of hazardous materials associated with the Shell Rule 1105.1 Compliance Project are less than significant.

8.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to hazards and hazardous materials are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to hazards and hazardous materials. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on hazards and hazardous materials. Since no significant adverse hazard/hazardous materials impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY. Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k) Exceed wastewater treatment requirements of the | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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applicable Regional Water Quality Control Board?

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| l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| o) Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

9.1 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.

9.2 Environmental Setting and Impacts

9. a), f), k), l) & o) As discussed in Appendix C, page 2-17 of the 2003 Final EA, the potential for hydrology and water quality impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, hydrology and water quality impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The Shell Rule 1105.1 Compliance Project at the Shell Wilmington Refinery includes the demolition of three existing ESPs and the construction of three new ESPs. Water will be used during grading activities to minimize dust emissions; however, the amount of grading required is minimal since the area for the new foundations is already flat. Therefore, no substantial use of water is required during the construction phase.

No increase in water use is expected during the operational phase due to the proposed project. ESPs do not use water. Therefore, no increase in water use is required as part of the proposed project.

9. b) As discussed in Appendix C, on Page 2-17 of the 2003 Final EA, the proposed project is not expected to significantly adversely affect the quantity or quality of groundwater in the area of the refinery. There is no beneficial use of ground water in the area of the Shell Wilmington Refinery since most of the aquifers are unusable for fresh water supply because of salt-water intrusion. A small amount of water will be used for dust suppression during grading activities, but this amount would not exceed the SCAQMD's water demand significance threshold of five million gallons per day or more. However, since dry ESP technology does not utilize water, no increase in water use is expected during operations associated with the proposed project. Therefore, no significant adverse impacts are expected to ground water quality from the Shell Rule 1105.1 Compliance Project.

9. c), d), e) & m) As discussed in Appendix C, on Page 2-18 of the 2003 Final EA, changes to the refinery's storm water collection systems are expected to be less than significant since most of the changes will occur within existing units. At the Shell Wilmington Refinery, storm water runoff within process unit areas are handled by the refinery's wastewater system and sent to an on-site wastewater treatment system prior to discharge to the Los Angeles County Sanitation Districts' system. Storm water runoff from outside the process unit areas will be collected and discharged through an NPDES permit. The proposed project is not expected to result in an

increase in storm water runoff, therefore, no significant adverse impacts on storm water runoff is expected.

9. g), h), & i) As discussed in Appendix C, on Page 2-18 of the 2003 Final EA, the proposed project is expected to involve construction and modification activities located within existing refineries and does not include the construction of any new housing or would not place new housing within a 100-year flood hazard area. The Shell Wilmington Refinery is not located within a 100-year flood zone and would not expose people or property to any known water-related flood hazards. No significant adverse impacts associated with flood hazards are expected due to the proposed project.

9. j) As discussed in Appendix C, on Page 2-18 of the 2003 Final EA, the affected refineries are generally located near the Ports of Long Beach and Los Angeles, but at a sufficient distance from the shore to avoid potential tsunami impacts. The Shell Wilmington Refinery is located north of the Port of Long Beach. The construction of breakwaters, combined with the distance of the refinery from the water, is expected to minimize the potential impacts of a tsunami or seiche so that no significant impacts are expected. Further, the Shell Wilmington Refinery is located in a relatively flat area, therefore, the proposed project is not susceptible to mudflows (e.g., hillside or slope areas) so that no significant impacts from mudflows would be expected.

9. n) As discussed in Appendix C, on Page 2-18 of the 2003 Final EA, the refineries are expected to have sufficient water supplies available for Rule 1105.1 compliance projects. The Shell Rule 1105.1 Compliance Project is not expected to result in a substantial increase in water use. A small amount of water will be used for dust suppression during grading activities, but this amount would not exceed the SCAQMD's water demand significance threshold of five million gallons per day or more. Since dry ESPs do not utilize water, no increase in water use would be expected for the operation of the dry ESPs. No significant adverse impact on water use is expected due to the proposed project.

Based on the above considerations, the potential hydrology and water quality impacts, especially those associated with wastewater discharge, storm water discharge, and water demand are expected to be less than significant for the proposed project.

9.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to hydrology and water quality are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to hydrology and water quality. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on hydrology and water quality. Since no significant hydrology and water quality impacts were identified, no mitigation is required or proposed.

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

10.1 Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by the City of Los Angeles.

10.2 Environmental Setting and Impacts

10. a) As discussed in Appendix C, page 2-19 of the 2003 Final EA, the potential for land use and planning impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, land use and planning impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The proposed project will occur at the existing Shell Wilmington Refinery, thus, it will not result in physically dividing any established communities, but will continue the use of the site as a refinery.

10. b) & c) As discussed in Appendix C, on Page 2-19 of the 2003 Final EA, land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by regulating emissions of PM10 and ammonia slip from FCCUs. The proposed project will occur at the existing Shell Wilmington Refinery, which is zoned for heavy industrial use. The existing refinery and the proposed project are consistent with this land use. Therefore, present or planned land uses in the region will not be affected as a result of the Shell Rule 1105.1 Compliance Project. Further, there are no habitat conservation or natural community conservation plans located within or adjacent to the existing refinery.

Based upon the above considerations, significant adverse land use planning impacts are not expected from the implementation of the proposed project.

10.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to land use and planning are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to land use and planning. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on land use and planning. Since no significant land use and planning impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
11. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

11.1 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

11.2 Environmental Setting and Impacts

11. a) & b) As discussed in Appendix C, page 2-20 of the 2003 Final EA, the potential for mineral resources impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. All construction and operational activities that would occur as a result of the proposed project at the Shell Wilmington Refinery will occur within the confines of the refinery. The proposed project would be consistent with the heavy industrial zoning for the refinery and there are no mineral resources or operations on or near the Shell Wilmington Refinery. Based upon the above considerations, significant mineral resources impacts are not expected from the Shell Rule 1105.1 Compliance Project.

There are no provisions of the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

11.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to mineral resources are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to mineral resources. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on mineral resources. Since no significant mineral resources impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
12. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SHELL RULE 1105.1 COMPLIANCE PROJECT

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|---|--------------------------|-------------------------------------|-------------------------------------|
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

12.1 Significance Criteria

Impacts on noise will be considered significant if:

Construction noise levels exceed the City of Los Angeles noise ordinance 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.

12.2 Environmental Setting and Impacts

12. a), b), c), & d) As discussed in Appendix C, page 2-21 of the 2003 Final EA, the potential for noise impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, noise impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The existing noise environment at the Shell Wilmington Refinery is dominated by refinery equipment, other heavy industrial activities, and traffic. Construction activities for the proposed

project are expected to generate noise associated with the use of heavy construction equipment and construction-related traffic. However, noise from the proposed project is not expected to produce noise in excess of current operations. It should also be noted that construction activities will occur 24 hours per day during certain phases of construction activities. The location of the construction activities will be adjacent to the FCCU and located adjacent to other industrial areas. The closest residents are located approximately one mile to the northeast of the construction site. Therefore, the noise impacts associated with construction activities are expected to be less than significant since sufficient distance exists between the construction noise sources and sensitive receptors for the noise to be completely attenuated.

Noise from the proposed project is not expected to exceed that of current operations at the existing refinery. The proposed project will replace three existing ESPs with three new ESPs. The noise levels of the equipment are expected to be about the same, so no change in noise levels is expected during the operation of the proposed project. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health. Noise impacts are expected to be less than significant.

12. e) & f) As discussed in Appendix C, on Page 2-21 of the 2003 Final EA, the Shell Wilmington Refinery is not located within an airport land use plan, and the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airplanes.

Based upon the above considerations, significant noise impacts are not expected from the proposed project.

12.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to noise are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to noise. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on noise. Since no significant noise impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?

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|---|--------------------------|--------------------------|-------------------------------------|
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

13.1 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.

13.2 Environmental Setting and Impacts

13. a) As discussed in Appendix C, page 2-22 of the 2003 Final EA, the potential for population and housing impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, population and housing impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

Construction and operations activities associated with the proposed project are not expected to involve the relocation of individuals, impact housing or commercial facilities, or change the distribution of the population because the proposed project will occur completely within existing industrial facilities. A maximum of 130 construction workers will be required during the construction phase of the proposed project and most of the workers are expected to come from the large labor pool in southern California. No increase in the permanent number of workers at the refinery is expected following the construction phase because the primary effect of the proposed project is to replace three existing dry ESPs with three new dry ESPs.

13. b) & c) As discussed in Appendix C, on Page 2-22 of the 2003 Final EA, because the proposed project includes modifications and/or changes at existing refineries in industrial settings, the Rule 1105.1 Compliance Project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of Rule 1105.1 and will not be further evaluated in the ~~Draft~~ Final Negative Declaration.

13.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to population and housing are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to population and housing. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on population and housing. Since no significant population and housing impacts were identified, no mitigation is required or proposed.

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

14.1 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.

14.2 Environmental Setting and Impacts

14. a) & b) As discussed in Appendix C, page 2-23 of the 2003 Final EA, the potential for public services impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, public services impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The Shell Wilmington Refinery receives police and fire protection services from the City of Los Angeles. The Shell Wilmington Refinery is surrounded by fences and entry is restricted to several gates. A 24-hour security force operates at the refinery. Fire protection services are provided by the City of Los Angeles and supplemented by an on-site fire department. The Shell Rule 1105.1 Compliance Project will be constructed within the confines of the existing refinery and involves the replacement of existing ESPs with new ESPs. The proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments and police departments) above current levels.

14. c), d) & e) As discussed in Appendix C, on Page 2-23 of the 2003 Final EA, the local labor pool (e.g., workforce) of particular affected facility areas is expected to be adequate to fill the short-term construction positions for the proposed project. The Shell Rule 1105.1 Compliance Project will require a maximum of about 130 construction workers. These workers are expected to come primarily from the labor pool in southern California. The proposed project will not result in additional permanent workers at the facility or increase the local population. Thus, no impacts are expected to local schools, parks, other public facilities or government services.

Based upon these considerations, significant public services impacts are not expected from the implementation of the Shell Rule 1105.1 Compliance Project.

14.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to public services are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to public services. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on public services. Since no significant public services impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
15. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

15.1 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 effects existing recreational opportunities.

15.2 Environmental Setting and Impacts

15. a) & b) As discussed in Appendix C, page 2-24 of the 2003 Final EA, the potential for recreation impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, recreation impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

The Shell Rule 1105.1 Compliance Project will require a maximum of about 130 construction workers. These workers are expected to come from the large labor pool in southern California. The proposed project will not result in additional permanent workers at the facility or increase the local population. Thus, no impacts are expected to recreational facilities and the proposed project would not require the construction or expansion or recreational facilities that might have an adverse physical effect on the environment.

15.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to recreation are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to recreation. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on recreation. Since no significant recreation impacts were identified, no mitigation is required or proposed.

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

16.1 Significance Criteria

The proposed project impacts on solid and 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.

16.2 Environmental Setting and Impacts

16. a) As discussed in Appendix C, page 2-25 of the 2003 Final EA, the potential for solid/hazardous waste impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery’s activities to comply with Rule 1105.1, solid/hazardous waste impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

Construction activities associated with the Shell Rule 1105.1 Compliance Project will increase the amount of solid waste generated and disposed. Demolition activities are expected to generate

waste from the removal of the existing ESPs. The ESPs are expected to be either reused at another site outside of the district or recycled for metal so that demolition activities are not expected to generate significant volumes of waste that require disposal.

Asbestos has been detected in one of the existing ESPs so that small volumes of asbestos containing material (ACM) may require disposal. ACM may be disposed at a Class III disposal facility, e.g., the Waste Management's Azusa Land Reclamation Co. Landfill. The remaining capacity of the facility is about 34 million cubic yards of waste (CIWMB, 2006). The expected ACM waste generated by the Shell project is less than one cubic yard. Therefore, sufficient disposal capacity exists to handle the one time disposal of ACM associated with the demolition of the existing ESPs.

The existing ESPs in the FCCU generate waste associated with removing particulate matter from the flue gas. The waste particulate matter is usually non-hazardous solid waste. The Shell Rule 1105.1 Compliance Project will add more efficient ESPs, generating a slight increase in particulate matter collected by the ESPs. The waste generated by the new ESPs is expected to be the same composition with a slight increase in volume than the waste currently generated by the existing ESPs. The proposed project will generate additional particulate solid waste collected by the ESPs. The increase in waste is expected to be minimized through a waste minimization plan, combined with current practices of regenerating, reclaiming or recycling of catalysts, in lieu of disposal. Therefore, the amount of additional particulate wastes generated are not expected to exceed the capacity of any landfills used by Shell.

16. b) As discussed in Appendix C, on Page 2-25 of the 2003 Final EA, it is expected that each affected refinery currently complies with, and upon completion of the proposed project, is expected to continue to comply with federal, state, and local regulations related to solid and hazardous wastes. The Shell Rule 1105.1 Compliance Project is not expected to adversely affect the refinery operator's ability to comply with federal, state, and local solid/hazardous waste regulations.

16.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to solid/hazardous waste are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with SCAQMD Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to solid/hazardous waste. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on solid/hazardous waste. Since no significant solid/hazardous waste impacts were identified, no mitigation is required or proposed.

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

17.1 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 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.

17.2 Environmental Setting and Impacts

17. a) & b) As discussed in Appendix C, page 2-26 of the 2003 Final EA, the potential for transportation/traffic impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant. Because the currently proposed project consists of a single refinery's activities to comply with Rule 1105.1, transportation/traffic impacts from the Shell Rule 1105.1 Compliance Project are within the scope of the larger project evaluated in the 2003 Final EA for Rule 1105.1.

Construction activities resulting from implementing the proposed project is expected to require a maximum of 130 temporary construction workers, construction equipment, and the delivery of construction materials. During the peak construction period (expected to last about one month), two 12-hour shifts will operate so that a maximum of 65 workers will arrive at work at the same time. Shifts will be coordinated to generally avoid peak hour traffic with the morning shift starting at about 6 am and ending at about 6 pm and the evening shift starting at about 6 pm and ending at about 6 am. Therefore, no significant adverse traffic impacts are expected during the construction phase.

The work force at the Shell Wilmington Refinery will not increase as a result of the proposed project. The proposed project will result in an increase of about four trucks per year (a maximum of one truck per day) to transport additional PM10 waste. The increase in operation-related traffic is expected minor and limited to one truck per day. Therefore, no significant adverse traffic impacts are expected during the operational phase.

17. c) As discussed in Appendix C, on Page 2-26 of the 2003 Final EA, the refining of petroleum products and the specific activity of controlling particulate emissions from FCCUs do not require the transport of materials to or from each refinery via air traffic. Thus, the proposed project is not expected to result in a change to existing air traffic patterns.

17. d) & e) As discussed in Appendix C, on Page 2-26 of the 2003 Final EA, the siting of the refinery is consistent with surrounding land uses and traffic/circulation in the surrounding areas of the refineries are designed to accommodate refinery-related traffic patterns. Thus, the

proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the Shell Wilmington Refinery. Aside from the temporary effects due to an increase in truck traffic during the construction phase, the proposed project is not expected to alter the existing long-term circulation patterns. Emergency access at the refinery will not be impacted by the proposed project. Further, the Shell Refinery operators will continue to maintain their existing emergency access gates and the refinery's emergency response plan will not need to be modified.

17. f) As discussed in Appendix C, on Page 2-27 of the 2003 Final EA, no significant adverse impacts on parking are expected due to implementation of the 1105.1 compliance projects. The Shell Wilmington has sufficient on-site parking for all construction workers. No additional parking will be needed after completion of the construction phase because no increase in the work force at the Shell Wilmington Refinery is required. Therefore, no significant adverse impact on parking is expected as a result of the proposed project.

17. g) As discussed in Appendix C, on Page 2-27 of the 2003 Final EA, construction and operation activities resulting from Rule 1105.1 compliance projects are not expected to conflict with policies supporting alternative transportation since all construction and operation activities related to controlling emissions from FCCUs will occur solely in existing industrial areas. The Shell Rule 1105.1 Compliance Project will occur within the confines of the existing refinery and the increase in traffic will be minimal and temporary during the construction phase. Following construction, no increase in traffic is expected. Therefore, construction and operation activities resulting from the proposed project are not expected to conflict with policies supporting alternative transportation since the proposed project does not involve or affect alternative transportation modes (e.g. bicycles or buses) because the construction and operation activities will occur solely within the existing refinery.

Based upon these considerations, significant transportation/traffic impacts are not expected from Shell's 1105.1 Compliance Project.

17.3 Mitigation Measures

The 2003 Final EA for Rule 1105.1 concluded that no significant adverse impacts to transportation/traffic are expected to occur as a result of construction and operational activities that refinery operators would undertake in order to comply with Rule 1105.1. Also, the Shell Rule 1105.1 Compliance Project, a subset of the overall project analyzed in the 2003 Final EA, will not result in any adverse significant impacts to transportation/traffic. Based upon these considerations, neither the project analyzed in the 2003 Final EA for Rule 1105.1, nor the currently proposed Shell Rule 1105.1 Compliance Project will cause an overall significant adverse impact on transportation/traffic. Since no significant transportation/traffic impacts were identified, no mitigation is required or proposed.

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

18.1 Checklist Response Evaluation

18. a) As discussed in Appendix C, page 2-28 of the 2003 Final EA, the mandatory findings of significance impacts associated with the activities for all five of the affected refineries to comply with Rule 1105.1 was determined to be less than significant.

As shown in Section 4 – Biological Resources and Section 5 – Cultural Resources of this environmental checklist evaluation, the Shell Rule 1105.1 Compliance project is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The affected site is part of an existing refinery facility, which has been previously graded, such that the proposed project is not expected to extend into environmentally sensitive areas, so that no significant adverse impacts are expected.

18. b) & c) The 2003 Final EA determined there is the potential for significant adverse environmental impacts to air quality during the construction phase. Even though SCAQMD Rule 1105.1 will cause a temporary and significant adverse increase in emissions during the construction phase, the temporary net increase in emissions combined with the total emission

reductions projected overall would not interfere with the air quality progress and attainment demonstration projected in the AQMP. Therefore, cumulative air quality impacts from implementing Rule 1105.1 and all other AQMP control measures considered together, are not expected to be significant because implementation of existing rules with future compliance dates and all AQMP control measures is expected to result in net emission reductions of 0.5 ton per day of solid filterable PM10, and about two tons per day of condensable PM10 by 2006 and overall air quality improvement.

The Shell Rule 1105.1 Compliance Project will replace three old ESPs with three new ESPs so that PM10 and ammonia emissions from the FCCU will be reduced to levels that will comply with the emission limitations in Rule 1105.1. The sole purpose of the proposed project is to comply with Rule 1105.1, so that overall PM10 and ammonia emissions from the FCCU are reduced. Therefore, no significant adverse air quality impacts are expected, either individually or cumulatively.

The Shell Rule 1105.1 Compliance Project will comply with the AQMP. The AQMP identifies control measures necessary to lessen the cumulative air quality problem in the South Coast Air Basin and lead the Basin into compliance with the state and federal ambient air quality standards. The modifications to Rule 1105.1 were specifically identified as a control measure (Control Measure 97CMB-09) in the 1997 AQMP, as amended in 1999. Compliance with Rule 1105.1 is expected to significantly contribute to the overall improvement of air quality in the region. Therefore, the Shell Rule 1105.1 Compliance Project is within the scope of the larger project evaluated in the 2003 EA for Rule 1105.1. The proposed project will assist in the implementation of the SCAQMD's AQMP, and will assist the Basin in moving towards attainment of the state and national ambient air quality standards for PM10.

In evaluating whether the Shell project is individually significant, the SCAQMD did not take any emission reduction credit for emission reductions resulting from installation of the new ESPs. However, in evaluating cumulative significance, there will be a substantial decrease in PM10 emissions from all refineries' FCCUs. Therefore, the Shell Rule 1105.1 Compliance Project will provide an overall air quality and, thus, public health benefit, consistent with the AQMP.

18. c) As discussed in Appendix C, on Page 2-28 of the 2003 Final EA, the proposed project may result in emissions of regulated air pollutants and may also increase the hazards at each affected refinery. The analysis in the 2003 Final EA concluded that Rule 1105.1 would not generate significant adverse hazard and hazardous materials impacts. The analysis of the Shell Rule 1105.1 Compliance Project in this Negative Declaration concluded that hazards and hazardous materials impacts would not be significant and are considered to be within the scope of the Rule 1105.1 analysis in the 2003 Final EA. Further, air quality impacts for the Shell Rule 1105.1 Compliance Project were analyzed in this Negative Declaration. Construction air quality impacts were concluded to be within the scope of the construction analysis in the 2003 Final EA and do not exceed construction air quality impacts that were already presented in that document. Operational air quality impacts from the proposed project are as follows. PM10 emissions from the FCCU at the Shell Wilmington Refinery will be less compared to the existing setting FCCU emissions and mobile source emissions from the transport of PM10 wastes are substantially less than the applicable criteria and precursor pollutant significance thresholds.

19.0 CONCLUSION

In 2003, the SCAQMD prepared a Final EA to evaluate the impacts of adopting Rule 1105.1 to reduce emissions of PM10 and ammonia from refinery FCCUs. The analysis in the 2003 Final EA concluded that implementation of Rule 1105.1 would result in potentially significant adverse impacts associated with air quality during construction activities but that the project impacts on other environmental resources were less than significant.

After the certification of the 2003 Final EA, Shell proceeded with detailed engineering design to develop a compliance plan for Rule 1105.1. To evaluate the project-specific impacts resulting from the proposed project, this Negative Declaration was prepared under CEQA Guidelines §15189 because Shell's proposed project did not generate any new significant adverse environmental impacts or make substantially worse existing significant adverse environmental impacts that were already disclosed in the 2003 Final EA. Based on the environmental analysis prepared for the currently proposed project, the SCAQMD has quantitatively and qualitatively demonstrated that the proposed project will not generate any new significant adverse impacts and meets the qualifications for the preparation of a Negative Declaration per the requirements of CEQA Guidelines §15070.

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ACRONYMS

ABBREVIATION	DESCRIPTION
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BACT	Best Available Control Technology
Basin	South Coast Air Basin
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIWMB	California Integrated Waste Management Board
CO	Carbon monoxide
CO ₂	Carbon dioxide
CUP	Conditional Use Permit
dBA	A-weighted noise level measurement in decibels
DOT	Department of Transportation
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ERPG	Emergency Response Planning Guideline
ESP	Electrostatic Precipitator
°F	Degrees Fahrenheit
FCCU	Fluid Catalytic Cracking Unit
IS	Initial Study
ISCST3	Industrial Source Complex Model Short Term Version 3
°K	degrees Kelvin
lbs	pounds
lbs/hr	pounds per hour
LOS	Level of Service
m/s	meters per second
MMscf	Million Standard Cubic Feet
N ₂	nitrogen
NH ₃	Ammonia
NAAQS	National Ambient Air Quality Standards
nanograms/m ³	nanograms per cubic meter
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NIOSH	National Institute of Occupational Safety and Health

SHELL RULE 1105.1 COMPLIANCE PROJECT

NOP	Notice of Preparation
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSR	New Source Review
OSHA	Occupational Safety and Health Administration
PM ₁₀	particulate matter less than 10 microns in diameter
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch (gauge)
PSM	Process Safety Management Program
RCRA	Resource Conservation and Recovery Act
RECLAIM	Regional Clean Air Incentives Market
RWQCB	Regional Water Quality Control Board, Los Angeles Region
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCR	Selective Catalytic Reduction
SO ₂	sulfur dioxide
SO _x	sulfur oxide
SPCC	Spill Prevention, Control and Countermeasure
SWIS	Solid Waste Information System
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USC	United States Code
USGS	United States Geological Society
VOC	volatile organic compounds

GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
Barrel	42 gallons.
Catalyst	A substance that promotes a chemical reaction to take place but which is not itself chemically changed.
Cogeneration	A cogeneration unit is a unit that produces electricity and useful thermal energy for steam or heating processes.
Cracking	The process of breaking down higher molecular weight hydrocarbons to components with smaller molecular weights by the application of heat; cracking in the presence of a suitable catalyst produces an improvement in product yield and quality over simple thermal cracking.
dBA	The decibel (dDB) is one tenth of a bel where one bel represents a difference in noise level between two intensities I_1 , I_0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Flue Gas	Gases produced by burning fuels in a furnace, heater or boiler.
Heater	Process equipment used to raise the temperature of refinery streams processing.
Hydrocarbon	Organic compound containing hydrogen and carbon, commonly occurring in petroleum, natural gas, and coal.
L ₅₀	Sound level exceeded 50 percent of the time (average or mean level)
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.

SHELL RULE 1105.1 COMPLIANCE PROJECT

Peak Hour	This typically refers to the hour during the morning (typically 7 AM to 9 AM) or the evening (typically 4 PM to 6 PM) in which the greatest number of vehicles trips are generated by a given land use or are traveling on a given roadway.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which may change in intensity.
Selective Catalytic Reduction	An air pollution control technology that uses a catalyst to remove nitrogen oxides from flue gas.
<i>Spalling</i>	<i>Cracking and flaking</i>