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CHAPTER 6.0

PROJECT ALTERNATIVES

INTRODUCTION

This EIR provides a discussion of alternatives to the proposed project as required by the CEQA. According to the CEQA guidelines, alternatives should include realistic measures to attain the basic objectives of the proposed project and provide means for evaluating the comparative merits of each alternative. In addition, though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines, [Section §15126.6\(ad\)\(5\)](#)). The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation.

Alternatives analyses typically evaluate the “No Project Alternative” as a basis for comparing potential significant environmental impacts. However, Public Resources Code §21178(g) exempts projects that will enable the production of CARB RFG Phase 3 compliant fuels from the requirements of analyzing a No Project Alternative and alternative sites. Specifically, Public Resources Code §21178(g) indicates that “No EIR shall include a discussion of a ‘No Project’ alternative nor shall it include a discussion of any alternative sites for the project that are outside of existing refineries boundaries.” Accordingly, this Subsequent EIR does not address the No Project Alternative. Although there is no requirement to evaluate alternative sites, the lead agency is not precluded from performing an alternative sites analysis. An alternative site analysis is included herein to evaluate the feasibility of alternative locations for the storage of petroleum products.

Section 15126.6(f) of the CEQA Guidelines stipulates that the range of alternatives required in an EIR is governed by a rule of reason in that the EIR must discuss only those alternatives “necessary to permit a reasoned choice” and those that could feasibly attain most of the basic objectives of the proposed project. California RFG Phase 3 legislation contains explicit specifications regarding the characteristics of Phase 3 reformulated gasoline. For this reason, the range of potential project alternatives is relatively limited.

The project alternatives were developed by modifying one or more components of the proposed project taking into consideration the project’s limitations as to space, permitting requirements, and compliance agreement stipulations. Unless otherwise stated, all other components of each project alternative are identical to the proposed project. Both the identified feasible project alternatives as well as the alternatives rejected as infeasible are discussed further below.

ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines §15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's determination.

Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives; (2) infeasibility; or (3) inability to avoid significant environmental impacts. Furthermore, CEQA Guidelines §15126.6(f)(2)(B) indicates that if the lead agency concludes that no feasible alternative locations for the project exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR.

The proposed project objective is to comply with California's RFG Phase 3 requirements for gasoline produced by the Ultramar Wilmington Refinery. The proposed project includes removing MTBE and replacing it with ethanol to comply with the federal oxygenate requirement. There are a number of other oxygenates besides MTBE and ethanol that could potentially be used in gasoline. However, with the Governor's ban on MTBE and the requirements of the CARB Phase 3 regulations, ethanol is the only oxygenate that can be used to replace MTBE at this time (CARB, 2000). Therefore, alternatives to the use of ethanol were not evaluated as they are infeasible.

Ultramar could attempt to negotiate a new lease or an extension to the existing lease with the Port of Los Angeles to allow for a new Marine Terminal or request that the existing lease be extended. Under this scenario, additional storage would be provided within the Port. This scenario is not considered to be feasible. The Port has been eliminating or reducing the size of petroleum terminals within the Port and using the land for other port-related land uses. Portions of the Ultramar Marine Terminal are currently being dismantled and remediated. While this alternative may have been feasible at one time, the lease negotiations and return of the land to the Port has progressed too far to be considered to be feasible at the present time.

ALTERNATIVES EVALUATED IN THE PREVIOUS FINAL EIR

Three alternatives were evaluated in the previous Final EIR including the receipt of ethanol via alternate modes of transportation, alternate pipeline routes, and alternatives to the storage of propane/propylene. Based on the analyses, none of these alternatives would eliminate the potentially significant air quality or hazard impacts related to the previously proposed project. No other feasible alternatives were identified that would reduce the air quality or hazard impacts to a less than significant level. Consequently, the previously proposed project was preferable to the alternatives because it allowed the Refinery to meet the project objectives of complying with state reformulated fuels requirements while resulting in no additional or worse environmental impacts than any of the identified project alternatives.

POTENTIAL ALTERNATIVES TO THE REVISED PROJECT

Alternative 1 – Alternative Locations for Storage of Petroleum Products

A portion of the project improves the storage capabilities at Ultramar facilities to allow for additional capacity needed for the storage and blending of petroleum products. Two naphtha tanks at the Olympic Tank Farm are being constructed to compensate for the loss of petroleum storage due to the partial closure of the Marine Terminal. There could be other locations where storage tanks could be used or new tanks could be constructed for storage of petroleum products. Under this alternative, petroleum products would still be expected to be transported via marine vessel to the Marine Terminal. However, the material could be transferred to other petroleum storage facilities. The previous EIR included pipelines to BP's storage facilities as a potential solution for finding additional storage capacity. Other potential storage locations could include third party terminals, such as those owned by Kinder Morgan, or by Equilon in the City of Carson. It should be noted that there is little available storage tank capacity for purchase or lease at third party terminals and most storage tank facilities are operating near capacity (SCAQMD, 2001e). Under this alternative, the construction of additional storage tanks would still be required.

Alternative 2 – Alternatives to the Transport of Gasoline Blending Components

A large portion of the air quality impacts associated with the proposed project are from marine vessels associated with the transport of gasoline blending components to the Marine Terminal. Additional quantities of gasoline blending components could be manufactured on-site at the Refinery with the installation of additional processing units including an alkylation unit. Under this alternative, it is assumed that a 10,000 barrel per day alkylation unit will be required that includes new vessels, pumps, valves, flanges, etc., and that a new heater would also be required. This alternative would require that intermediate blendstocks be delivered to the Refinery (most likely via the Marine Terminal).

ALTERNATIVES ANALYSIS

Alternative 1 – Alternative Locations for Storage of Petroleum Products

The EIR assumes that alternative locations can be found for the construction or operation of new storage tanks.

Air Quality: The construction or operation of storage tanks at alternate locations would be expected to result in similar air quality impacts as the proposed project. The proposed project includes the use of existing tanks where available and the reconstruction of a number of tanks. Alternative locations would likely require construction of all new storage tanks resulting in greater construction emissions as compared to the proposed project. It is possible other locations may be found where a few storage tanks are available and other new ones could be constructed. In either case, this alternative is not expected to result in a decrease in emissions associated with construction activities and could possibly generate more emissions if the construction of all new storage tanks were required (instead of making modifications to some of the tanks).

The Olympic Tank Farm, Marine Tank Farm and Marine Terminal are or will be connected by pipelines. The proposed project evaluated in the previous Final EIR (SCAQMD, 2001f) included the construction of pipelines to connect the Refinery to the Olympic Tank Farm. The Marine Tank Farm and the Marine Terminal are currently connected to the Refinery via pipelines. The use of other existing or new storage tank farm facilities could require the construction of additional pipelines thus generating additional construction emissions.

The operational emissions associated with alternate locations for the storage of the proposed petroleum products are expected to be the same as the proposed project. Regardless of the location, a storage tank of equivalent size, storing the same material and with the same throughput would be expected to have the same emissions. Therefore, the operational air quality impacts associated with this alternative are expected to be the same as the proposed project.

The project impacts on toxic air contaminants were considered to be less than significant. Under this alternative, it is expected that the impacts of toxic air contaminants could also be less than significant. However, the project sites are all located within heavy industrial areas and away from more sensitive land uses, like residential areas. Therefore, the impacts of toxic air contaminants at other locations could be higher if located closer to residential areas.

Geology/Soils: The extensive construction activities required under this alternative are expected to be similar as the proposed project but would occur at an alternate site. There is the potential for the discovery of contaminated soils. The impacts of this alternative on geology/soils are expected to be less than significant, due to the existing regulations regarding the discovery of contaminated soils and the Uniform Building Code that governs the building of new structures. The geological hazards (e.g., earthquake hazards and liquefaction) associated with alternative locations are expected to be similar to the proposed project as the geologic hazards are similar throughout the general Southern California area. Compliance with the Uniform Building Code requirements are expected to minimize the geological hazards in the area so that no significant impacts are expected.

Hazards and Hazardous Materials: The hazards associated with this alternative are expected to be about the same as the proposed project as the same volume and type of petroleum products would be expected to be stored at an alternate location. The proposed project is located within heavy industrial areas and away from more sensitive land uses, like residential areas. Other locations where the storage tanks would be compatible with existing land uses (e.g., the BP facility) are also located in industrial areas. The impacts of hazards at other locations could be higher if alternate locations were found closer to residential areas. The impacts of Alternative 1 on hazards and hazardous materials are expected to be equivalent to the proposed project and remain significant for Refinery modifications and storage of gasoline blending components.

Hydrology/Water Quality: The impacts of Alternative 1 on hydrology/water quality would be expected to be about the same as the proposed project, assuming that an alternate site would continue to: implement storm water control measures; have storm water treatment capabilities; have adequate containment facilities; and comply with wastewater discharge requirements, including NPDES permit requirements. It is also assumed that any new storage location would require preparing and implementing an SPCC Plan.

Land Use/Planning: The impacts of Alternative 1 on land use/planning would depend on the locations of the alternate sites. It is expected that other tank farms would be located within heavy industrial areas so that significant impacts to land use/planning would not be expected.

Noise: Potential noise impacts of Alternative 1 would depend on the locations of the alternate storage tank farms. It is expected that terminals would be located within heavy industrial areas so that significant noise impacts would not be expected.

Solid/Hazardous Waste: Alternative 1 could have greater solid/hazardous waste impacts if additional construction activities are necessary (e.g., additional pipelines) that encounter additional contaminated soils that may require handling and disposal. It is expected that potential solid/hazardous waste impacts under this Alternative would be less than significant as local landfills have sufficient capacity to handle the one-time generation of materials during the construction phase. The solid/hazardous waste generated by Alternative 1 is expected to be slightly greater than the proposed project, and not significant. The solid/hazardous waste generated by Alternative 1 during the operational phase are expected to be the same as the proposed project and less than significant.

Transportation/Traffic: The impact of Alternative 1 is expected to be the same as the proposed project because it is assumed that all petroleum products are transferred to/from the Refinery and Marine Terminal and the storage tank farms via pipeline. Consequently, no significant impacts are expected on traffic under this alternative.

Alternative 2 – Alternatives to the Transport of Gasoline Blending Components

Under this alternative, it is assumed that a 10,000 barrel per day alkylation unit would be required.

Air Quality: This alternative would require the construction of additional refinery processing units resulting in greater construction emissions than the proposed project. Therefore, the air quality impacts associated with construction activities under this alternative would not only remain significant, but could be substantially greater.

The air quality impacts associated with the operational phase of Alternative 2 would eliminate some of the marine vessels (an estimated 50 percent or about 33 vessels) associated with delivering gasoline blending stocks but would require additional marine vessels to transport intermediate feed stocks to supply the Alkylation Unit. The proposed project would result in an increase in fugitive emissions associated with a new Alkylation Unit and combustion emissions associated with additional heat requirements to operate the new unit. It is assumed that a new Alkylation Unit would be about the same size as the existing Alkylation unit. New fugitive emissions would be associated with the valves, flanges, pumps, pressure relief devices, drains, and other fugitive components associated with typical refinery units. The overall emissions associated with the fugitive components are estimated to be about 100 pounds per day. A new heater or increased firing at an existing heater of about 65 mmBtu/hr is expected to be required to supply the necessary heat and steam needs of the new unit. The emissions from stationary sources under Alternative 2 would be greater than the proposed project (see Table 6-1) because additional stationary sources

would be constructed. The emissions of NOx and SOx from stationary sources at the Refinery are regulated under the SCAQMD’s RECLAIM program and are subject to different CEQA thresholds than the other sources (see Table 4-2). The emissions of NOx and SOx from stationary sources (i.e., subject to RECLAIM) are expected to remain less than significant. The emissions of CO, VOC, and PM10 from stationary sources and all pollutants from indirect sources are expected to exceed the SCAQMD significance threshold and are considered significant.

TABLE 6-1
ALTERNATIVE 2 OPERATIONAL EMISSIONS
(pounds per day)

SOURCE	CO	VOC	NOx	SOx	PM10
Emissions from Previous Final EIR:	325	73	213	5	67
Stationary Source Emissions:					
Refinery Fugitive Emissions (e.g., pumps)	--	5	--	--	--
Marine Tank Farm Fugitive Emissions	--	8	--	--	--
Olympic Terminal Fugitive Emissions	--	5	--	--	--
Refinery Storage Tank Modifications	--	12	--	--	--
Marine Tank Farm Modifications	--	9	--	--	--
Olympic Terminal Tank Modifications	--	226	--	--	--
Olympic Tank Farm Diesel Pump	9	3	39	1	3
Marine Terminal Modifications	--	7	--	--	--
Marine Terminal Emission Reductions ⁽¹⁾	--	-99	--	--	--
Indirect Emission Sources:					
New Worker Vehicles	4	<1	<1	--	<1
Marine Vessel Emissions	176	71	1,911	2,672	366
Emission Reductions (offsets)	--	-175	--	--	--
Total Proposed Project Emissions	514	146	2,164	2,678	437
Additional Emissions Under Alternative 2					
Alkylation Unit:					
New Heater ⁽¹⁾	58	34	13	7	156
Fugitive Emissions	--	100	--	--	--
Total Alternative 2 Emission Increases⁽²⁾	572	280	2,177	2,685	593

(1) The NOx and SOx emissions associated with these sources are regulated under SCAQMD’s RECLAIM program.

(2) Although the annual emissions would be less than the proposed project because fewer ships would be required under Alternative 2, the maximum daily emissions are not expected to change.

Alternative 2 would still require marine vessels so that emissions associated with marine vessels would be the same as the proposed project on a maximum day. However, the annual emissions from marine vessels would be less because only about half of the expected vessels associated with the proposed project would be required under Alternative 2.

Based on the above discussion, overall emissions from Alternative 2 are expected to be greater than from the proposed project and are considered significant.

The emissions of toxic air contaminants from the Refinery stationary sources would be greater under this alternative due to the increase in fugitive and combustion emissions over the proposed project conditions. It is estimated that the toxic emissions from the proposed project would be greater but are expected to remain less than significant due to the use of BACT.

Geology/Soils: The amount of grading required for this alternative would be greater than the proposed project as building foundations would be required for a new unit which would increase the potential for finding contaminated soils. This alternative may increase the potential impact to structures resulting from a major earthquake because additional structures would be built. All new structures would need to comply with the Uniform Building Code for Zone 4 earthquake areas. The impacts associated with Alternative 2 on geology/soils are slightly greater than for the proposed project, but would still be less than significant.

Hazards and Hazardous Materials: During operation, hazard impacts would be expected to be greater than the proposed project. A new Alkylation unit would result in potentially significant hazard impacts associated with the use of an acid catalyst. The existing Alkylation Unit at the Refinery currently uses hydrofluoric acid. It is expected that a new Alkylation Unit would be required to use either modified hydrogen fluoride or sulfuric acid instead of hydrofluoric acid to minimize hazard impacts. Under this Alternative, hazards would probably be considered significant because modified hydrogen fluoride or sulfuric acid would be required to be transported to the Refinery to supply the new Alkylation unit. In addition, the use of sulfuric acid would generate spent acid and require transport of the spent acid to an acid plant. Additional ammonia would be transported to the Refinery to supply ammonia to the new Alkylation unit heater. The overall hazard impacts associated with this alternative are expected to be significant since modifications would still be required to the Naphtha Hydrotreater, Light Ends Recovery Unit No. 2, and the propane/propylene bullets at the Refinery and from storage tank modifications to the Olympic Tank Farm. Additional hazards would be expected under this Alternative associated with a new Alkylation Unit.

Hydrology/Water Quality: The impacts of Alternative 2 on hydrology/water quality would be expected to be about the same as the proposed project, as the requirements for wastewater treatment, storm water collection and treatment, and so forth would still be required under this alternative. This alternative would be expected to generate additional wastewater associated with a new Alkylation Unit but existing treatment facilities and compliance with discharge permits are expected to minimize the hydrology/water quality impacts to less than significant.

Land Use/Planning: The impacts of Alternative 2 on land use/planning are expected to be the same as the proposed project. It is expected that a new Alkylation Unit would be located within the existing Refinery which is zoned for heavy industrial land uses. Refining activities are allowed within the heavy industrial areas, so that significant impacts to land use/planning would not be expected.

Noise: Alternative 2 would increase the number of noise sources associated with the construction of the proposed project as more construction activities would be required to construct a new alkylation unit. The proposed project impacts were considered to be less than significant for both the construction and operational phases. Alternative 2 would result in additional noise sources at the Refinery including additional pumps and heaters. The noise impacts are expected to be less than significant, but greater than for the proposed modified project, as sensitive receptors and residential areas are located about one-half mile from the site and noise from new units would be limited to comply with various regulations and ordinances.

Solid/Hazardous Waste: The impact of Alternative 2 is expected to result in more grading and related construction activities as the proposed project and potentially generate additional quantities of contaminated soil and demolition wastes. It is expected that the impacts on solid/hazardous waste under this Alternative would be less than significant as local landfills have sufficient capacity to handle the one-time generation of materials during the construction phase.

Alternative 2 may increase the amount of solid/hazardous waste generated by the proposed project as additional quantities of sulfuric acid may be used and additional spent sulfuric acid would be generated. The impacts of this alternative are considered to be less than significant since the waste streams are generally regenerated (sulfuric acid) or recycled (metal catalysts). Alternative 2 is expected to generate spent sulfuric acid that would need to be transported and regenerated off-site. The impact of Alternative 2 on solid/hazardous is expected to be less than significant.

Transportation/Traffic: This alternative is expected to result in additional traffic associated with construction activities since more construction workers and equipment would be required to construct a new unit. The construction traffic impacts associated with Alternative 2 would be greater than the proposed project.

Alternative 2 would decrease the marine vessel traffic associated with the proposed project. The by-products/chemicals traveling to/from the Refinery by truck would increase as a new Alkylation Unit would require additional quantities of modified hydrofluoric acid or sulfuric acid. The impacts of Alternative 2 on transportation are expected to be the same as the proposed project and would be less than significant.

CONCLUSION

Table 6-2 compares the potential environmental impacts of the various alternatives relative to the proposed project. Based on the analyses herein, no feasible alternatives were identified that would reduce or eliminate the potentially significant air quality or hazard impacts related to the proposed

project and achieve the objectives of the proposed project (comply with the CARB Phase 3 requirements).

All the alternatives and the proposed project would result in significant impacts to air quality and hazards. No other feasible alternatives were identified that would reduce the air quality or hazard impacts to a less than significant level. Consequently, the proposed project is preferable to the alternatives because it allows the Refinery to meet the project objectives of complying with state reformulated fuels requirements while resulting in fewer environmental impacts than any of the identified project alternatives.

TABLE 6-2
ENVIRONMENTAL IMPACTS OF ALTERNATIVES
as compared to proposed project

ENVIRONMENTAL TOPIC	Proposed Project	Alternative 1⁽¹⁾	Alternative 2⁽¹⁾
Air Quality			
Construction	S	S(=)	S(+)
Operation	S	S(=)	S(+)
Toxic Air Contaminants	NS	NS(=)	NS(+)
Geology/Soils			
Construction	NS	NS(=)	NS(+)
Operation	NS	NS(=)	NS(+)
Hazards/Hazardous Materials			
Operation	S	S(=)	S(+)
Transportation Risks	NS	NS(=)	S(+)
Hydrology/Water Quality	NS	NS(=)	NS(+)
Land Use	NS	NS(=)	NS(=)
Noise			
Construction	NS	NS(=)	NS(+)
Operation	NS	NS(=)	NS(+)
Solid/Hazardous Waste	NS	NS(+)	NS(+)
Transportation/Circulation			
Construction	NS	NS(=)	NS(+)
Operation	NS	NS(=)	NS(+)

(1) See page 6-3 for further details.

Notes:

- S = Significant
- NS = Not Significant
- (-) = Potential impacts are less than the proposed project.
- (+) = Potential impacts are greater than the proposed project.
- (=) = Potential impacts are approximately the same as the proposed project.