

CHAPTER 4

EIR Text Revisions

4.1 Introduction

The following changes have been made to the previously published text of the DEIR. These changes include: minor corrections made by the section authors to improve writing clarity, grammar, and consistency; clarifications, additions, or deletions resulting from specific responses to comments; or staff-initiated text changes to update information in the DEIR.

These text revisions are organized by the chapter and page number that appear in the DEIR. These text revisions use the following conventions:

- Text deleted from the EIR is shown in ~~strike-out text~~.
- Text added to the EIR is shown in underline text.

4.2 Text Revisions

Chapter 1, Introduction

In response to Comment CP-1, DEIR page 1-1, paragraph 1, sentence 2 is revised as follows:

The Proposed Project includes a new Hydrogen Plant to be owned and operated by a third party, Air Liquide.

Chapter 2, Summary of Environmental Impacts

In response to Comment CP-16-1, the first bullet on DEIR page 2-5, is revised as follows:

- ... the total increased flow of wastewater attributed to the Proposed Project would only be approximately 4 3 percent of existing discharge amounts.

In response to Comment CP-11, the fourth bullet on DEIR page 2-3, is revised as follows:

- Proposed Project operations would require purchase of an additional 9.8 MW of electrical power, which would be supplied by PG&E; however, ConocoPhillips would continue to export 12 MW to PG&E from its Carbon Plant. The combined result would be a net export of 2.2 MW of electricity from the Refinery and Carbon Plant.

In response to Comment CP-2, DEIR page 2-7, Section 2.2.14 adds the following bullet points:

- There will be an increased demand for natural gas when refinery fuel gas supplies are not adequate.
- A net increase demand of 9.8 MW of electricity would be required, which would be supplied by PG&E; however, the Carbon Plant exports 12 MW of electricity to PG&E, so combined, the Refinery and Carbon Plant together would still be a net exporter of 2.2 MW of electricity.

In response to Comment CP-16-2, the sixth bullet on DEIR page 2-10, is revised as follows:

- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

In response to comment CP-16-3, Mitigation Measure 4.2-2a is added on DEIR page 2-12:

4.2-2a: The four Dissolved Air Flotation (DAF) vents associated with the onsite wastewater treatment plant shall be routed to a Thermal Oxidizer with a destruction efficiency of no less than 98 percent. The DAF outlet channel and downstream sumps shall be sealed by a solid cover with gaskets. Any vents installed on the covered channel shall be routed to the thermal oxidizer. Installation of these controls shall reduce organic emissions by at least 242 pounds per day and 44.1 tons per year (assumed efficiency of 98 percent for both the thermal oxidizer and the channel covers).

Also, the subsequent Mitigation Measures numbers on DEIR page 2-12 are renumbered as follows:

4.2-2a ~~b~~; 4.2-2~~b~~ ~~c~~; 4.2-2~~e~~ ~~d~~; 4.2.2~~d~~ ~~e~~

*In response to comment CP-16-14, the Significance before Mitigation for **Public Services Impact 4.12-1** on DEIR page 2-20 is revised as follows:*

~~Less than Significant~~ **No Impact**

In response to comment CP-16-4, the text of Mitigation Measure 4.13-2 on DEIR page 2-21 is replaced with the text of Mitigation Measure 4.13-2 from DEIR page 4.13-17, as follows:

4.13-2: To minimize traffic impacts to area roadways during Proposed Project construction, all construction-related traffic shall access the site from the north, using Cummings Skyway to San Pablo Avenue. Construction-related traffic shall not deviate from this route, except in the event that the route is rendered impassable due to accidents or other unanticipated road closures. In the event that this route becomes impassable for an extended period of time, ConocoPhillips shall consult with Contra Costa County to determine an acceptable alternate route.

In response to comment CP-16-5, a sentence is added to the end of Mitigation Measure 4.13-4 on DEIR page 2-21, as follows:

Unused portions of the deposit would be returned to ConocoPhillips.

**TABLE 2-1 REVISED
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP**

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|---------------------------------------|----------------------------|--------------------------------------|
| Aesthetics, Visual Quality, Light and Glare | | | |
| 4.1-1: The construction and operations of the Proposed Project would add new equipment and facilities in developed, industrial portions of the Refinery and could degrade the visual character of the local setting from public view corridors such as I-80, a heavily traveled motorway or existing residential areas in the vicinity of the Refinery. Because the new and modified equipment would be similar in size, form and scale, and extent to the existing Refinery equipment, visual change in the appearance of the Refinery would be relatively small. | Less than Significant | None required. | |
| 4.1-2: Proposed Project operations could cause increases in the frequency and/or magnitude of flaring events at the Refinery. These increases could degrade the existing visual character of the Refinery and potentially add to the existing light and glare from the Refinery. | Less than Significant | None required. | |
| 4.1-3: Operation of the Proposed Project could create water vapor plumes visible to surrounding residents and motorists. Steam would be generated as a part of the Proposed Project and used in the proposed process units. In significant frequency, size and duration these water vapor plumes could degrade the existing visual character of the Refinery. | Less than Significant | None required. | |
| 4.1-4: The Proposed Project's new facilities would add new lighting on site. The new lighting would be similar to the existing lighting at the Refinery, and the overall increase in light from the Proposed Project would be minor and difficult to perceive from beyond the perimeter of the site. | Less than Significant | None required. | |
| 4.1-5: The reasonably foreseeable projects at the Refinery would increase the intensity of the industrial appearance of the overall complex. However, none of the changes associated with individual projects are expected to adversely affect the visual character of the Refinery or surrounding areas. | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|---|-------------------------------|
| Air Quality | Potentially Significant | <p>4.2-1a: During construction, ConocoPhillips shall implement the following dust control procedures to maintain Proposed Project construction-related impacts at acceptable levels.</p> <p>ConocoPhillips shall implement the following dust abatement program to reduce the contribution of Proposed Project construction to local PM₁₀ concentrations. Elements of this program (in compliance with BAAQMD <i>CEQA Guidelines</i>) shall include the following:</p> <ul style="list-style-type: none"> • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. • Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Dry mechanical pavement sweeping shall not be allowed. <p>The following “enhanced” control measures shall be implemented:</p> <ul style="list-style-type: none"> • Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). • Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.) • Limit vehicle speeds to 15 mph and limit ingress and egress to specified points. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways. | Less than Significant |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|--|-------------------------------|
| | | <ul style="list-style-type: none"> • Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas. • Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph. • Limit the area subject to excavation, grading and other dust-producing construction activity to 4 acres at any one time. • In disturbed areas that are not subsequently oiled, paved or constructed upon, vegetation shall be replanted as quickly as possible. • Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. • Include Mitigation Measure 4.2-1a in the construction bid documents and contracts. <p>4.2-1b: To mitigate equipment exhaust emissions, ConocoPhillips shall comply with the following requirements:</p> <ul style="list-style-type: none"> • Properly tune and maintain construction equipment in accordance with manufacturers' specifications. • Use best management construction practices to avoid (or limit) unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use). • Limit the idling time of diesel powered construction equipment to three minutes. • Use alternative fuels and/or alternatively fueled equipment such as ultra-low-sulfur diesel (ULSD), Compressed Natural Gas (CNG), biodiesel, water emulsion fuel, and/or electric. • All diesel trucks used by the construction contractor(s) at the site, or for on-road hauling of construction material, shall be post-1996 models. | |

**TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP**

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|---|-------------------------------|
| | | <ul style="list-style-type: none"> • All construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the onsite Construction Air Quality Mitigation Manager (CAQMM) that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be outfitted with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be outfitted with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the onsite CAQMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" if, among other reasons: <ol style="list-style-type: none"> (1) There is no available soot filter that has been certified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or (2) The construction equipment is intended to be on-site for ten (10) days or less. <p>The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the County is informed within one (1) working day of the termination:</p> <ol style="list-style-type: none"> (1) The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure. (2) The soot filter is causing or is reasonably expected to cause significant engine damage. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|---|-------------------------------|
| | | <p>(3) The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.</p> <p>(4) Any other seriously detrimental cause which has the approval of the County prior to the termination being implemented.</p> <p>Relief may be granted from this requirement if the CAQMM can demonstrate to the County that a good faith effort has been made to comply with this requirement and that compliance is not possible.</p> <ul style="list-style-type: none"> • Offer incentives to encourage construction workers to carpool or employ other means of transportation. The incentives shall include, but are not necessarily limited to, preferential onsite parking and substantial assistance with transportation costs (gas cards, FasTrak toll passes, public transit passes, etc.). • Schedule construction activities to allow at least 33% of the construction workforce to avoid the morning and afternoon peak traffic periods. • Use on-site power to minimize reliance on portable generators. • Diesel portable generators less than 50 horsepower shall not be allowed at the construction site, except for those used by welders. • Include Mitigation Measure 4.2-1b in the construction bid documents and contracts. <p>Mitigation Measure 4.2-1c: To further reduce construction-related dust and exhaust emissions, ConocoPhillips shall comply with the following requirements:</p> <ul style="list-style-type: none"> • Employ a Construction Air Quality Mitigation Manager approved by the County to oversee implementation of the construction air quality mitigation measures. • During earthmoving operations, apply water or a non-toxic soil stabilizer to backfill material in order to maintain a moisture level that is sufficient to minimize dust. | |

**TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP**

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|---|-------------------------------|
| | | <ul style="list-style-type: none"> • Install fencing as needed to prevent unnecessary access to construction areas. • Locate construction staging areas adjacent to the various construction sites. • For stockpiles, maintain adequate moisture content to minimize dust, remove material from downwind side, avoid steep sides or faces, and stabilize material following disturbance. • Empty loader buckets slowly and drop material from the minimum height necessary. • Install track out control devices at exit points from the Refinery utilized by construction equipment. • Pave all roadways, driveways, sidewalks, etc. as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Formulate a dust control plan for earth moving operations and designate a staff person to monitor the plan's implementation. • Post a publicly readable sign with the telephone number of a person to contact regarding dust complaints. The sign shall be placed in a conspicuous location on Refinery Property along San Pablo Avenue. • Limit construction contractor parking to those areas indicated on Figure 3-10 on DEIR page 3-37. These areas shall be configured to minimize interference with local traffic, with ingress and egress limited to specified points. • Consolidate truck deliveries when possible. • Establish a staging zone on Refinery property for trucks waiting to load and unload. This zone shall be established in an area where it will not impact Refinery neighbors. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|--------------------------------|--|-------------------------------|
| <p>4.2-2: Operational activities associated with the implementation of the Proposed Project would increase air pollutant emissions, contributing to existing air quality violations. Current estimates show that the total net new Proposed Project emissions of NO_x, SO₂, VOC, and PM₁₀ would not exceed the BAAQMD emissions significance criteria with implementation of mitigation measures.</p> | Potentially Significant | <ul style="list-style-type: none"> • Locate construction equipment in the vicinity of sensitive receptors only if it is absolutely necessary in order to complete specific construction-related activities and move the equipment away from the receptors immediately after the activities have been completed. • Include Mitigation Measure 4.2-1c in the construction bid documents and contracts. <p>4.2-2a: The four Dissolved Air Flotation (DAF) vents associated with the onsite wastewater treatment plant shall be routed to a Thermal Oxidizer with a destruction efficiency of no less than 98 percent. The DAF outlet channel and downstream sumps shall be sealed by a solid cover with gaskets. Any vents installed on the covered channel shall be routed to the thermal oxidizer. Installation of these controls shall reduce organic emissions by at least 242 pounds per day and 44.1 tons per year (assumed efficiency of 98 percent for both the thermal oxidizer and the channel covers).</p> <p>4.2-2b: The Refinery Steam Power Plant uses three simple-cycle gas turbines to generate electricity, and uses gas turbine waste heat to generate steam. Each gas turbine has a nitrogen oxide (NO_x) catalyst system located at the base of the exhaust stack. The Refinery shall take a new permit limit to achieve a reduction of NO_x concentration in each stack by 1 ppm from its current operating baseline. This 1 ppm of NO_x equates to a reduction of 81 pounds per day and 14.7 tons per year.</p> <p>4.2-2c: Operations at the ConocoPhillips' Carbon Plant shall be modified to result in a decrease in SO₂ emissions of at least 230 pounds per day and 42 tons per year.</p> <p>4.2-2d: The baghouse at the Carbon Plant shall use improved bag technology to capture particulate matter (PM₁₀) from the calcined coke operation. Installation of the improved bag technology shall reduce PM₁₀ emissions by at least 41 pounds per day and 7.5 tons per year.</p> | Less than Significant |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|---------------------------------------|--|--------------------------------------|
| | | 4.2-2e: Net reductions in ROG emissions associated with the mitigated Proposed Project shall be used to offset 36 pounds per day and 7.6 tons per year of NOx associated with the Proposed Project. | |
| 4.2-3: Operational activities associated with the implementation of the Proposed Project could lead to increases in odorous emissions. | Less than Significant | None required. | |
| 4.2-4: The Proposed Project would contribute to cumulative regional air emissions; however, it would not be cumulatively considerable and it would not conflict with or obstruct implementation of the applicable air quality plan. | Potentially Significant | As discussed in Impact 4.2-2, with the proposed mitigation measures the Proposed Project would have a less-than-significant impact on air quality. Furthermore, as discussed in Section 4.10, <i>Land Use</i> , the Proposed Project is consistent with the Contra Costa County General Plan which in turn is consistent with the BAAQMD's current air quality plan (2005 Ozone Strategy). | Less than Significant |
| Biological Resources | | | |
| 4.3-1: Potential impacts to the San Francisco Bay estuary ecosystem, including special status fisheries, could result from changes in character of Refinery ship traffic of product exports. Sources of potential impacts include introduction of non-indigenous species in ballast water release or through hull fouling. Compliance with the Marine Invasive Species Act and with Coast Guard requirements under the National Invasive Species Act, would minimize risk of introducing non-indigenous species. | Less than Significant | None required. | |
| 4.3-2: Potential impacts to special status fisheries could result if additional wastewater or pollutant discharges into San Pablo Bay were to occur. The State Implementation Plan and the San Francisco Bay Basin Plan regulate such discharges through NPDES permits, a principal tool used in protection of aquatic sensitive species and other "beneficial uses" of State water resources. | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|--------------------------------|---------------------|-------------------------------|
| <p>4.3-3: Product export ship and barge traffic has a small but present potential to result in accidental releases of toxic materials in San Pablo Bay that may affect the waters there, as well as in the Carquinez Strait and nearby wetlands. Organisms inhabiting aquatic and marsh habitat could be adversely affected by such releases. Net volume of product export would decrease slightly with Proposed Project implementation, thus, the Proposed Project would, at minimum, not increase risk of this impact from current levels. This potential impact would be further reduced by the Refinery's current Oil Spill Contingency and Response Plan, a measure required by law.</p> | Less than Significant | None required. | |
| <p>4.3-4: Impacts to the San Francisco Bay estuary ecosystem, including special status fisheries, could result from changes in cumulative ship traffic that could introduce non-indigenous species in ballast water release or through hull fouling, or from additional pollutant discharges from other non-refinery industrial projects, together with cumulative refinery projects. Compliance with the Marine Invasive Species Act, and with Coast Guard requirements under the National Invasive Species Act, would minimize risk of introducing non-indigenous species and continued compliance with the discharge requirements of the Refinery's NPDES permit would reduce pollutant discharges.</p> | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|---------------------------------------|--|--------------------------------------|
| Cultural Resources | | | |
| <p>4.4-1: Although there are no known archaeological resources located at the site and the ground surface has been extensively disturbed as a result of past refinery activities, construction of the Proposed Project could result in adverse impacts to undiscovered archeological resources.</p> | Potentially Significant | <p>4.4-1: Pursuant to CEQA Guidelines Section 15064.5(f), "provisions for historical or unique archaeological resources accidentally discovered during construction" shall be instituted. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and ConocoPhillips shall consult with the County and a qualified archaeologist (as approved by the County) to assess the significance of the find per CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives of the County and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the County would determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is carried out. All significant cultural materials recovered shall be, at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documented according to current professional standards.</p> | Less than Significant |
| <p>4.4-2: Although there are no known paleontological remains located at the site and the ground surface has been extensively disturbed as a result of past refinery activities. Even so, construction of the Proposed Project could result in adverse impacts to undiscovered paleontological resources.</p> | Potentially Significant | <p>4.4-2: ConocoPhillips shall notify both a qualified paleontologist (as approved by the County) and the County of unanticipated discoveries. The qualified paleontologist, under contract to ConocoPhillips, shall subsequently document the discovery. In the event of an unanticipated discovery of a fossil or fossilized deposit during construction, excavations within 100 feet of the find shall be temporarily halted or diverted until a qualified paleontologist examines the discovery. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. The paleontologist shall oversee implementation of these procedures once they have been determined.</p> | Less than Significant |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|--------------------------------|--|-------------------------------|
| <p>4.4-3: There are no known human remains or burials located at the Proposed Project sites. Although the ground surface has been extensively disturbed as a result of past Refinery activities, construction of the Proposed Project could result in adverse impacts to undiscovered human remains or burials.</p> | Potentially Significant | <p>4.4-3: In the event that any prehistoric or historic subsurface human remains are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and ConocoPhillips shall consult with the County and a qualified archaeologist (as approved by the County) to assess the significance of the find per CEQA Guidelines Section 15064.5. If any find is determined to be significant, representatives of the County and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation. In considering any suggested mitigation proposed by the consulting archaeologist to mitigate impacts to historical resources or unique archaeological resources, the County would determine whether avoidance is feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) would be instituted. Work may proceed on other parts of the project site while mitigation is carried out. All significant cultural materials recovered shall be, at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documented according to current professional standards. CEQA Guidelines Section 15064.5(e)(1), below, shall also be followed:</p> <p>(e) In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:</p> <p>(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:</p> <p>(A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and</p> <p>(B) If the coroner determines the remains to be Native American:</p> | Less than Significant |

**TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP**

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|----------------------|--------------------------------|---|-------------------------------|
| | | <ol style="list-style-type: none"> 1. The coroner shall contact the Native American Heritage Commission within 24 hours; 2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American; 3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, as amended by AB 2641; or <p>(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance:</p> <ol style="list-style-type: none"> (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the Commission; (B) The identified descendant fails to make a recommendation; or (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|--|---|---|
| <p>4.4-4: The Proposed Project, together with proposed and planned future development at the Proposed Project site and in the surrounding area, would not make a cumulatively considerable contribution to cumulative cultural resources impacts.</p> <p>Energy</p> <p>4.5-1: The construction and operation of the Proposed Project could result in consumption of energy.</p> <p>4.5-2: The Proposed Project together with proposed and planned future development at the Refinery and in the area in general, could result in a cumulative impact to energy resources.</p> <p>Geology, Soils, and Seismicity</p> <p>4.6-1: Strong seismic ground shaking from a major earthquake in the region could potentially injure persons at the Proposed Project site due to structural damage of facility structures. Strong ground shaking could potentially expose persons and property to seismic-related hazards, including seismic-related ground failure, localized liquefaction and seismically-induced settlement.</p> <p>4.6-2: Construction of the Proposed Project could result in soil erosion during excavation, grading, and construction activities.</p> <p>4.6-3: The Proposed Project could 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 lateral spreading, subsidence, liquefaction, or collapse.</p> <p>4.6-4: Proposed construction could experience damage from expansive soils and natural settlement.</p> <p>Public Health</p> <p>4.7-1: Construction activities from the Proposed Project would increase emissions of TACs, mainly from diesel-operated equipment. Modeling these emissions indicates that predicted offsite concentrations of TACs would be less than the CEQA significance threshold.</p> | <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> | <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> <p>None required.</p> | <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> <p>Less than Significant</p> |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|---------------------------------------|----------------------------|--------------------------------------|
| 4.7-2: Public exposure to TAC emissions from operations of the Proposed Project would result in an increase in health risks. The increases in health risks would result from exposure to carcinogenic and non-carcinogenic substances. The magnitudes of both the noncancer and cancer risks fall below the identified significance criteria values. | Less than Significant | None required. | |
| 4.7-3: Public exposure to toxic air contaminant (TAC) emissions from the Proposed Project and from other projects or cumulative development could result in a slight increase in health risks in the region. | Less than Significant | None required. | |
| Public Safety | | | |
| 4.8-1: Possible accidents or accidental releases of hazardous substances could result during construction of the Proposed Project. These could create a hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, through reasonably foreseeable upset and accident conditions, or by an increased risk of fatality or serious injury. | Less than Significant | None required. | |
| 4.8-2: Accidental releases of acutely hazardous substances may result under the operation of the Proposed Project. These could create a hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, through reasonably foreseeable upset and accident conditions, or by an increased risk of fatality or serious injury. | Less than Significant | None required. | |
| 4.8-3: A potential exists that accidents at various industrial facilities could interact with accidents at the Refinery in a way that could create a cumulative hazard to the public or the environment from hazardous materials. The contribution from the Proposed Project would not be cumulatively considerable. | Less than Significant | None required. | |
| Hydrology and Water Quality | | | |
| 4.9-1: The Proposed Project could result in an increase of pollutants, including toxic metals and chemicals, in the process wastewater stream and in effluent discharges to receiving waters. | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|---------------------------------------|----------------------------|--------------------------------------|
| 4.9-2: Construction activities could generate wastewater and storm water runoff volumes that could increase wastewater or combined inflows into the wastewater treatment plant. This increase would not result in an exceedance of the available hydraulic and/or treatment capacity of the wastewater treatment plant or an exceedances of the effluent limits of the existing NPDES permit. | Less than Significant | None required. | |
| 4.9-3: The accumulative wastewater flows from the Proposed Project and wastewater flows, storm water flows, and atmospheric deposition from point and non-point sources within the vicinity of the Proposed Project could increase pollutant discharges to San Pablo Bay. The increased contribution of the Proposed Project would not be cumulatively considerable. | Less than Significant | None required. | |
| Land Use, Plans and Policies | | | |
| 4.10-1: The Proposed Project would be in general conformance with applicable regional or local plans and policies adopted for the purpose of avoiding or mitigating environmental effects. There would be the potential for some inconsistencies between the construction and operation of the Proposed Project and applicable regional plans and policies. | Less than Significant | None required. | |
| 4.10-2: The Proposed Project, together with proposed and planned future development at the Refinery and in the surrounding area, would not conflict with adopted plans, so the Proposed Project would not contribute to a significant cumulative land use impact. | Less than Significant | None required. | |
| Noise | | | |
| 4.11-1: Operation of equipment to be installed as part of the Proposed Project could result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan. | Less than Significant | None required. | |
| 4.11-2: Operation of equipment to be installed as part of the Proposed Project could result in a permanent increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project. | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|--|---------------------------------------|---|--------------------------------------|
| <p>4.11-3: Construction activities associated with the Proposed Project would intermittently and temporarily generate noise levels above existing ambient levels in the Proposed Project vicinity over the duration of the construction period.</p> | Potentially Significant | <p>4.11-3a: Construction contractors shall be required to ensure that construction equipment is well tuned and maintained according to the manufacturer's specifications, and that the equipment's standard noise reduction devices are in good working order.</p> <p>4.11-3b: To minimize noise impacts to Bayo Vista and Rodeo during Proposed Project construction, all construction-related traffic shall access the site from the north, using Cummings Skyway to San Pablo Avenue. Construction-related traffic shall not deviate from this route, except in the event that the route is rendered impassable due to accidents or other unanticipated road closures. In the event that this route becomes impassable for an extended period of time, ConocoPhillips shall consult with Contra Costa County to determine an acceptable alternate route.</p> | Less than Significant |
| <p>4.11-4: The Proposed Project together with proposed and planned future development at the Refinery, nearby refineries, and in Rodeo in general, could result in cumulative increase in noise levels.</p> <p>Public Services</p> | Less than Significant | None required. | |
| <p>4.12-1: The Proposed Project together with proposed and planned future development at the Refinery would not result in a cumulatively considerable contribution to the cumulative impact to public services.</p> <p>Transportation</p> | No Impact | None required. | |
| <p>4.13-1: Proposed Project-generated increases in traffic volumes at intersections in the Proposed Project area would result in a less-than-significant impact to peak-hour traffic operations.</p> | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|---------------------------------------|---|--------------------------------------|
| 4.13-2: Proposed Project construction could overlap with other construction projects, which could have the effect of increasing temporary and intermittent delays experienced by motorists on area roadways. | Potentially Significant | 4.13-2: To minimize traffic impacts to area roadways during Proposed Project construction, all construction-related traffic shall access the site from the north, using Cummings Skyway to San Pablo Avenue. Construction-related traffic shall not deviate from this route, except in the event that the route is rendered impassable due to accidents or other unanticipated road closures. In the event that this route becomes impassable for an extended period of time, ConocoPhillips shall consult with Contra Costa County to determine an acceptable alternate route. | Less than Significant |
| 4.13-3: Proposed Project-generated increases in traffic volumes on the I-80 freeway in the Proposed Project area would result in a less-than-significant impact to peak-hour peak-direction operations. | Less than Significant | None required. | |
| 4.13-4: Proposed Project-generated increases in heavy truck traffic on area roadways could result in substantial damage or wear of public roadways. | Potentially Significant | 4.13-4: Prior to commencement of Proposed Project construction activities, which include any construction-related deliveries to the site, ConocoPhillips shall document to the satisfaction of the Contra Costa County Public Works Department, the road conditions of the construction route that would be used by Proposed Project construction-related vehicles. ConocoPhillips shall also document the construction route road conditions after Proposed Project construction has been completed. ConocoPhillips shall repair roads damaged by construction to County standards and to a structural condition equal to that which existed prior to construction activity. As a security to ensure that damaged roads are adequately repaired, ConocoPhillips shall make an initial \$250,000 deposit to an account to be used for roadway rehabilitation or reconstruction. If the County must ultimately undertake the road repairs, and repair costs exceed \$250,000, then ConocoPhillips shall pay the additional amount necessary to fully repair the roads to pre-construction conditions. Unused portions of the deposit would be returned to ConocoPhillips. | Less than Significant |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|-----------------------------------|---------------------|----------------------------------|
| <p>4.13-5: Under cumulative conditions, operation of the Refinery would generate up to 22 new a.m. peak-hour trips, and up to 22 new p.m. peak-hour trips. In addition, about 18 new daily truck trips would be generated because of increased import and export of materials to and from the Refinery. This amount is insignificant when compared to the cumulative traffic volumes at the study area intersections and freeway mainline.</p> <p>Utilities and Service Systems</p> | Less than Significant | None required. | |
| <p>4.14-1: Implementation of the Proposed Project would increase use of raw water from EBMUD, which has indicated that there are sufficient water supplies available to serve the project from existing entitlements and resources.</p> | Less than Significant | None required. | |
| <p>4.14-2: The solid waste generated from Proposed Project construction and operation would be directed to landfills. Almost all of the additional solid waste would be directed to Keller Canyon Landfill, which has sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs.</p> | Less than Significant | None required. | |
| <p>4.14-3: The Proposed Project together with proposed and planned future development at the Refinery and in the area in general, would result in increased water use and increased generation of solid waste. Although other cumulative industrial, commercial and residential development in the vicinity and in the County could result in similar increases in cumulative water use and solid waste generation, as well as impacts to the full range of Utilities and Service Systems categories, the contribution of the Proposed Project to these cumulative effects would not be cumulatively considerable.</p> <p>Agricultural Resources</p> <p>No agricultural resource impacts identified.</p> <p>Mineral Resources</p> <p>No mineral resource impacts identified.</p> | Less than Significant | None required. | |

TABLE 2-1 REVISED (continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE CONOCOPHILLIPS CFEP

| Environmental Impact | Significance before Mitigation | Mitigation Measures | Significance after Mitigation |
|---|-----------------------------------|---------------------|----------------------------------|
| Population, and Housing | | | |
| 4.17-1: Construction and operation of the Proposed Project could directly induce temporary and permanent population growth. Construction of the Proposed Project would likely lead to a temporary influx of construction workers to the Bay Area and operation of the Proposed Project would require approximately 27 long-term workers, all of which could be new residents. | Less than Significant | None required. | |
| 4.17-2: The Proposed Project would contribute to temporary and permanent increases in population and associated increases in the demand for housing. However, the contributions would be so insignificant that they would not be cumulatively considerable. | Less than Significant | None required. | |
| Parks and Recreation | | | |
| 4.18-1: The Proposed Project would lead to temporary and permanent population increases. This in turn would lead to increased use of existing neighborhood and regional parks and other recreational facilities. However, because the population increases would be insignificant, the associated increases in the use of parks and recreational facilities would also be insignificant and would not result in substantial or accelerated physical deterioration. | Less than Significant | None required. | |
| 4.18-2: The Proposed Project would make a contribution to cumulative increases in use of existing neighborhood and regional parks or other recreational facilities. However, because the direct increases in use would be insubstantial, the Proposed Project's contributions to parks use would not be cumulatively considerable. | Less than Significant | None required. | |

Chapter 3, Project Description

In response to comment CP-3, DEIR page 3-2, paragraph 4 is revised as follows:

The Proposed Project construction is anticipated to begin in ~~December 2006~~ the second quarter of 2007. Final tie-ins and modifications to existing process units would be scheduled to take place during Refinery turnarounds planed for the third quarter of 2008. Startup ~~would begin during the~~ of some operations would occur throughout the third and fourth quarter of 2008.

In response to comment CP-4, the last paragraph on DEIR page 3-5 is deleted as follows:

~~However, the Hydrogen Plant would be designed with surplus capacity so that, in the future, hydrogen could be supplied to other customers as an alternative clean fuel~~

In response to Comment CP-5, text is inserted at the end of the second sentence of Section 3.2.2, on DEIR page 3-7 as follows:

... their associated facilities, as well as one new 115kV electrical substation and two 150-foot long 115kV transmission lines.

Also, text is added to the bottom of Table 3-1 on DEIR page 3-8 as follows:

| Refinery Process Unit | Proposed Change |
|----------------------------------|---|
| <u>New Electrical Substation</u> | <u>One new 115kV electrical substation and two 150-foot 115kV transmission lines.</u> |

In response to comment CP-6, a bullet is added under the heading “Other units that are important to the operation of the Refinery, but which are not shown on Figure 3-5...”, on DEIR page 3-10 as follows:

- Carbon Plant;

In response to comments BAAQMD-1 and CP-6, the following is added to the Project Description, DEIR page 3-18:

3.3.2.16 Existing Carbon Plant

The Carbon Plant is a two (2) kiln, petroleum coke calcining operation that is integrated with cogeneration of electricity using waste heat produced by the coke calcining process. Calcining is the process of heating a solid to a temperature below its melting point to bring about a state of thermal decomposition or a phase transition other than melting. At the Carbon Plant, raw or “green” coke is fed into a natural gas fired rotary kiln to thermally remove associated moisture and volatile combustible matter and to otherwise improve critical physical properties such as electrical conductivity, real density, and oxidation characteristics. Exhaust emissions from the kilns are controlled by a baghouse. Process heat is captured by steam boilers and transformed into electrical power by the facility’s turbine

generator. The Carbon Plant currently produces 14.2 MW of electricity, of which 2.2 MW is used onsite, and the remaining 12 MW is exported to the electrical grid.

*In response to Comment CP-5, insert the following sentence in the “**Equipment to be installed in component**” row of the “**Energy Utilities**” column of Table 3-2 on DEIR page 3-19:*

One new 115kV electrical substation and two 150-foot long 115kV transmission lines.

In response to comment CP-7, the second sentence of the last paragraph on DEIR page 3-22 is modified as follows:

The low-sulfur HGO would continue to be exported by barge to other refineries.

In response to comment CP-8, the last paragraph of DEIR page 3-28 is modified as follows:

The facility would include new piping, valves, connections, access structures, loading arms, and result in 3 additional rail cars per day (representing an increase in butane shipments of up to 2,000 barrels per day).

In response to comment BAAQMD-4, DEIR page 3-31, paragraph 3, sentence 1 is revised as follows:

A SMR Furnace would be installed with an average a maximum firing capacity of approximately 975 million Btu/hr, with a peak of 1,072 million Btu/hr ~~higher heating value.~~

*In response to Comment EBMUD-8, a new second paragraph is added under the heading “**Proposed Changes**” on DEIR page 3-32:*

EBMUD staff and ConocoPhillips are currently working together on a study to evaluate the feasibility of using high-purity recycled water for ConocoPhillips’ boiler feedwater systems. A portion of the high-purity water needs for the Proposed Project could potentially be met from the high purity recycled water project if determined to be feasible.

In response to Comment CP-9 and a staff-initiated change, the second paragraph of Section 3.6, Maintenance Activities, DEIR page 3-38, is modified as follows:

This is a required by OSHA (under 29 CFR 1910.119) for ~~us~~ ConocoPhillips to review ~~our~~ processes and find potential hazards and make physical changes to prevent them. ~~We are~~ ConocoPhillips is required to revalidate the process hazards analyses every 5 years. ~~From a maintenance standpoint, we should probably change the language to read~~ Some Unit Process Hazards Analysis Recommendation Items. These recommendations come from the PHAs and some are implemented during maintenance activities.

In response to Comment CP-10, the fourth bullet under Section 3.7 on DEIR page 3-39 is modified as follows:

A BAAQMD Prevention of Significant Deterioration (PSD) Permit.

Chapter 4, Environmental Setting, Impacts, and Mitigation Measures

4.1 Aesthetics, Visual Quality, and Light and Glare

In response to Comment CP-16-6, the labels on figure 4.1-4 on DEIR page 4.1-7 are revised as follows:

Viewpoint N-2a, Tuillibee Court Public Housing, Bayo Vista (Before Project)

Viewpoint N-2b, Tuillibee Court Public Housing, Bayo Vista (After Project)

4.2 Air Quality

In response to comment BAAQMD-6, DEIR page 4.2-11, paragraph 5, sentence 1 is revised as follows:

As proposed, the ~~new~~ engine standards for new nonroad trucks engines would take effect in 2008.

In response to comment BAAQMD-3, insert the following text and footnote at the end of the second sentence under the heading “BAAQMD Rules and Regulations”, page 4.2-12:

... stationary sources in the Bay Area, and would have permit authority over the Proposed Project².

and insert the following as the text of footnote 2:

- 2 The CEC has the exclusive authority to approve the construction and operation of thermal energy-driven power plants that have electric generating capacities of 50 megawatts (MW) or larger and pursuant to 40 CFR Section 72.7 (New unit exemptions), any unit that generates 25 MW or less is exempt from the federal Acid Rain Program. The steam turbine generator at the new Hydrogen Plant would have an electric generating capacity of 10 MW. Therefore, the CEC would not have discretionary review authority over the Proposed Project and the federal Acid Rain Program would not apply.

In response to comment BAAQMD-7, DEIR page 4.2-12, paragraph 3 is revised as follows:

The New Source Review regulations apply to ~~nonattainment~~ the following criteria pollutants: nitrogen oxides (NOx), precursor organic compounds (POC), sulfur dioxide (SO₂), carbon monoxide (CO), and particulate matter less than 10 microns (PM₁₀), as well as non-precursor organic pollutants, and apply to all new and modified stationary sources, which are subject to the requirements of BAAQMD’s Best Available Control Technology (BACT). The New Source Review regulations also include PSD rules for ~~attainment~~ pollutants NOx, VOC, SO₂, CO, and PM₁₀, and if PSD is triggered, there are additional

restrictions on asbestos, beryllium, mercury, fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and total reduced sulfur compounds.

In response to comment BAAQMD-8, DEIR page 4.2-13, paragraph 4 is revised as follows:

To offset new emissions for new ~~resource~~ source review requirements from new Proposed Project facilities and equipment (...)

To add updated information from Section 2.3.2, Master Response – Odor, to the DEIR, the last sentence of paragraph 2 of DEIR Section 4.2.2.5, Odors, page 4.2-19 is revised, as follows:

During the years 2000 through ~~2004~~2006, totals of ~~78, 35, 48, 33, and 27~~ 89, 37, 29, 17, 35, 63, and 61 odor complaints, respectively, were received by BAAQMD related to the ConocoPhillips Refinery.

In response to comment BAAQMD-9, portions of the text in Table 4.2-4, DEIR page 4.2-15 are revised as follows:

| Regulation and Rule | Title | Description |
|---------------------|---|--|
| 8 – 2 | Miscellaneous Operations | Valves and Flanges <u>Miscellaneous Emissions of Organic Compounds</u> |
| 8 – 5 | Storage of Organic Liquids | Pumps and Compressors <u>Storage Tanks</u> |
| <u>8-8</u> | <u>Wastewater Collection and Separation Systems.</u> | <u>Wastewater Operations</u> |
| 8 – 18 | Valves and Flanges at Petroleum Refinery Complexes | Pressure Relief Valves <u>Valves, Flanges, Pumps and Compressors.</u> |
| 8 – 28 | Pressure Relief Valves at Petroleum Refineries and Chemical Plants | Limitations on Hydrogen Sulfide <u>Pressure Relief Valves</u> |
| 9 – 2 | Hydrogen Sulfide | General Provisions <u>Limitation on Hydrogen Sulfide</u> |
| 9 – 3 | Nitrogen Oxides from Heat Transfer Operations | Petroleum Refineries <u>Nitrogen Oxides from Heat Transfer Operations</u> |
| 9 – 11 | Nitrogen Oxides and Carbon Monoxide from Electric Power Generating Steam Boilers | Limits nitrogen oxides and carbon monoxide emissions from electric power-generating steam boilers |

In response to comment BAAQMD-2, the following text is added to the end of page 4.2-14 of the DEIR:

Assembly Bill 32 – California Global Warming Solutions Act of 2006

California has taken a leadership role in addressing the trend of increasing GHG emissions. California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, was enacted as legislation in 2006 and requires the California Air Resources Board (CARB) to establish a statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 requires CARB to adopt regulations by January 1, 2008 that will identify and require selected sectors or categories of emitters of GHGs to report and verify their statewide GHG emissions, and CARB is authorized to enforce compliance with the program that will be developed.

Under AB 32, CARB is required to adopt, by January 1, 2008, a statewide GHG emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations (which shall become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. The Refinery, including the Proposed Project, will be subject to AB 32, and will be required to comply with all applicable final rules, regulations, emissions limitations, emissions reduction measures or market-based compliance mechanisms adopted under AB 32.

At the present time, there are no rules or regulations in place from CARB, the State Clearinghouse, or other resource agency applicable to the Proposed Project that define what is a “significant” source of GHG emissions, and there are no applicable facility-specific GHG emission limits or caps. The BAAQMD noted in their comments on the DEIR that the District has not yet established thresholds for greenhouse gas emissions (BAAQMD, 2007) and presently, no other air districts within California have established emission thresholds for determining the significance of GHGs from industrial projects.

Also, while the goal of AB 32 is to reduce in-state GHG emissions to 1990 levels by the year 2020, there is no clear metric that would determine if a single project advances toward or away from this goal. Because global warming is a global issue, a pound of GHGs emitted in California would presumably have the same effect, individually and cumulatively, as a pound of GHGs emitted anywhere else in the world. In determining whether a single project may or may not result in new GHG impacts, regulatory agencies may need to consider any change in world-wide GHG emissions that may occur as a result of the project. For example, California is currently importing a substantial portion of its clean fuels from out-of-state refineries (see DEIR Figure 3-4). The Proposed Project, while it would increase its direct GHG emissions to produce more California clean fuels, would

also likely eliminate GHG emissions associated with the current and projected transportation of clean fuels into California from out-of-state refineries.

Monitoring and Reporting of Greenhouse Gas Emissions

Pursuant to SB 527, signed into law on October 13, 2001, the California Climate Action Registry (“Registry”) was formed. According to its website, the Registry is a non-profit voluntary registry for GHG emissions. The purpose of the Registry is to help companies and organizations with operations in the state to establish GHG emissions baselines against which any future GHG emission reduction requirements may be applied. AB 32 requires CARB to incorporate the standards and protocols developed by the Registry into the state’s new mandatory GHG emissions reporting program to the maximum extent feasible. AB 32 states that entities that join the Registry prior to December 31, 2006 and report their emissions according to the Registry’s rules and timeframe “shall not be required to significantly alter their reporting or verification program except as necessary to ensure that reporting is complete and verifiable.”

The Registry encourages voluntary actions to increase energy efficiency and decrease GHG emissions. Using any year from 1990 forward as a base year, participants can record their GHG emissions inventory. The State of California, in turn, will offer its best efforts to ensure that participants receive appropriate consideration for early actions in the event of any future state, federal or international GHG regulatory scheme. Registry participants include businesses, non-profit organizations, municipalities, state agencies, and other entities.

The Registry has developed a General Protocol and additional industry-specific protocols which give guidance on how to inventory GHG emissions for participation in the Registry: what to measure, how to measure, the back-up data required, and certification requirements. When organizations become participants, they agree to register their GHG emissions for all operations in California, and are encouraged to report nationwide. Both gross emissions and efficiency metrics will be recorded. The Registry requires the inclusion of all direct GHG emissions, along with indirect GHG emissions from electricity use. However, the Registry clearly recognizes that the indirect GHG emissions represent double-counting with respect to direct emissions from electricity producers. Therefore, the Registry requires indirect and direct emissions to be reported separately. See www.climateregistry.org.

As a first step in the AB 32 compliance process, ConocoPhillips has joined the Registry and has stated its commitment to inventory and report emissions of greenhouse gases according to the Registry’s General Reporting Protocol. ConocoPhillips has also notified the Registry of emission reductions it anticipates achieving through decommissioning of the carbon calcining operations at its Santa Maria Refinery effective early 2007. The decommissioning of this operation will result in a net decrease of approximately 250,000 metric tons per year of CO₂. ConocoPhillips has also notified CARB of its intent to seek a credit for these emissions reductions at such time as appropriate regulations are promulgated under AB 32.

In response to comments on odors as discussed in Section 2.3, Master Response – Odor, the last sentence of the second paragraph of Section 4.2.2.5 to page 4.2-19 of the DEIR is changes as follows:

During the years 2000 through ~~2004~~2006, totals of ~~78, 35, 48, 33, and 27~~ 89, 37, 29, 17, 35, 63, and 61 odor complaints, respectively, were received by BAAQMD related to ConocoPhillips Refinery.

In response to comment BAAQMD-2, the following text is added following Section 4.2.2.6 to page 4.2-20 of the DEIR:

4.2.2.7 Background on Climate Change

Some gases in the atmosphere affect the Earth's heat balance by absorbing infrared radiation. These gases can prevent the escape of heat in much the same way as glass in a greenhouse. This is often referred to as the "greenhouse effect," and it is responsible for maintaining a habitable climate. On Earth, the gases believed to be most responsible for the greenhouse effect are water vapor, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Enhancement of the greenhouse effect can occur when concentrations of these gases exceed the natural concentrations in the atmosphere. Of these gases, carbon dioxide (CO₂) and methane are emitted in the greatest quantities from human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. There is international scientific consensus that human-caused increases in greenhouse gases (GHGs) has and will continue to contribute to global warming, although there is much uncertainty concerning the magnitude and rate of the warming.

Some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CARB, 2006a). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas;
- More intense precipitation events.

Also, as noted in several comments on the DEIR, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, and

much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

The California Energy Commission estimated that in 2004 California produced 492 million gross metric tons of carbon dioxide-equivalent greenhouse gas emissions (CEC, 2006) (“CEC 2006 Report”). The CEC 2006 Report found that transportation is the source of 41% of the State’s GHG emissions, followed by electricity generation at 22% and industrial sources at 21% (oil refining is not separately listed but rather is included within the larger industrial category).

In the Bay Area, the Bay Area Air Quality Management District (BAAQMD) recently published the Source Inventory of Greenhouse Gas Emissions (BAAQMD, 2006), which identifies and quantifies direct emissions generated from sources within the BAAQMD. This report shows that the majority of GHG emissions in the Bay Area come from Transportation (50.6%) followed by Industrial/Commercial (25.7%). Domestic sources (e.g., home water heaters, furnaces, etc.) account for 10.9% of the Bay Area’s GHG emissions, followed by power plants at 7.2%. Oil refining currently accounts for approximately 5.6% of the total Bay Area GHG emissions.

In response to comments BAAQMD-10 and ABJC-12, entries in Table 4.2-7 DEIR page 4.2-18 and Table 4.2-8, DEIR page 4.2-22, respectively, are revised as follows:

**TABLE 4.2-7 REVISED
CRITERIA POLLUTANT EMISSIONS FOR THE EXISTING CONOCOPHILLIPS RODEO REFINERY**

| Pollutant | Refinery Emission Rates (tons per year)^a | Refinery Emission Rates (tons per day)^a | Percent of Bay Area Emission Rates^b | Percent of Contra Costa County Emission Rates^b |
|--------------------------------------|--|---|---|--|
| Reactive Organic Gases, ROG | 283 | 0.78 | 0.20 | 1.16 |
| Carbon Monoxide, CO | 344 <u>318</u> | 0.96 <u>0.87</u> | 0.04 | 0.25 |
| Oxides of Nitrogen, NO _x | 335 <u>867</u> | 0.92 <u>2.38</u> | 0.17 <u>0.44</u> | 0.97 <u>2.51</u> |
| Oxides of Sulfur, SO _x | 424 <u>1,636</u> | 1.16 <u>4.48</u> | 2.15 <u>8.30</u> | 3.93 <u>15.19</u> |
| Particulate Matter, PM ₁₀ | 126 <u>189</u> | 0.35 <u>0.51</u> | 0.16 <u>0.24</u> | 1.06 <u>1.55</u> |

^a Based on 2005 data for ConocoPhillips Rodeo Refinery and Carbon Plant.

^b Based on 2005 data for the Bay Area and Contra Costa County

SOURCES: California Air Resources Board. *California Almanac of Emissions and Air Quality*, <http://www.arb.ca.gov/ei/emissiondata.htm>, 2006. and BAAQMD estimates of emissions from ConocoPhillips Refinery for 2005 and Carbon Plant for 2004 (see BAAQMD comment letter of January 14, 2007), which were obtained from the June-28, 2006 invoices for Permit to Operate fees (Uyeda, 2006). Estimated Carbon Plant emissions are the same for 2004 and 2005.

**TABLE 4.2-8 REVISED
ESTIMATED BASELINE EMISSIONS
(average emissions, tons per year at the ConocoPhillips Refinery)**

| NO _x | SO ₂ | PM ₁₀ | ROG | CO |
|-----------------|-----------------|------------------|-----|---------|
| 335 867 | 424 1,636 | 426 189 | 283 | 344 318 |

SOURCE: BAAQMD estimate of emissions from ConocoPhillips Refinery for 2005 and Carbon Plant for 2004 (see BAAQMD comment letter of January 14, 2007), which was ~~were~~ obtained from the June 28, 2006 invoices for Permit to Operate fees (Uyeda, 2006). Estimated Carbon Plant emissions for 2004 and 2005 are the same.

As a staff-initiated change, the introductory text of Mitigation Measure 4.2-1a on DEIR page 4.2-24 is modified as follows:

Mitigation Measure 4.2-1a: During construction, ConocoPhillips shall ~~require its construction contractors to~~ implement the following dust control procedures to maintain Proposed Project construction-related impacts at acceptable levels.

~~Construction contractors~~ ConocoPhillips shall implement the following dust abatement program to reduce the contribution of Proposed Project construction to local PM₁₀ concentrations. Elements of this program (in compliance with BAAQMD CEQA Guidelines) shall include the following:

In response to comment BAAQMD-11, the following bullet item is added to the basic dust control measures presented in Mitigation Measure 4.2-1a, DEIR page 4.2-24:

- Dry mechanical pavement sweeping shall not be allowed.

As a staff-initiated change, the eighth bullet item in Mitigation Measure 4.2-1a on DEIR page 4.2-24 is modified as follows:

- Limit ~~traffic~~ vehicle speeds to 15 mph and limit ingress and egress to specified points.

As a staff-initiated change, the twelfth bullet item in Mitigation Measure 4.2-1a on DEIR page 4.2-25 is modified as follows:

- Limit the area subject to excavation, grading and other dust-producing construction activity to 4 acres at any one time.

In response to comment BAAQMD-12, the following two bullet items are added to the enhanced dust control program in Mitigation Measure 4.2-1a, DEIR page 4.2-25:

- In disturbed areas that are not subsequently oiled, paved or constructed upon, vegetation will be replanted as quickly as possible.
- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.

In response to comment BAAQMD-15, the following bullet item is added to Mitigation Measure 4.2-1a on DEIR page 4.2-24:

- Mitigation Measure 4.2-1a shall be included in the construction bid documents and contracts.

As a staff-initiated change, the introductory text of Mitigation Measure 4.2-1b on DEIR page 4.2-25 is modified as follows:

Mitigation Measure 4.2-1b: To mitigate equipment exhaust emissions, ConocoPhillips shall ~~require its construction contractors to~~ comply with the following requirements:

In response to comments BAAQMD-13 and ABJC-65, the fourth bullet item in Mitigation Measure 4.2-1b on DEIR page 4.2-25 is modified as follows:

- Use ~~(where feasible)~~ alternative fuels and/or alternatively fueled equipment (such as ULSD, Compressed Natural Gas (CNG), biodiesel, water emulsion fuel, and/or electric). ~~Provide the County with documentation that a good faith effort to use alternative fueled equipment was conducted if it is determined that its use is not feasible.~~

In response to comment BAAQMD-14, the fifth bullet item in Mitigation Measure 4.2-1b on DEIR page 4.2-25 is modified as follows:

- Use All diesel trucks which are used by the construction contractor(s) at the site, or for on-road hauling of construction material, shall be post-1996 models.

In response to comments BAAQMD-13 and ABJC-65, the sixth bullet item in Mitigation Measure 4.2-1b on DEIR page 4.2-25 is modified as follows:

- ~~Use add on control devices (where feasible) such as diesel oxidation catalysts or particulate filters.~~
- All construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the onsite Construction Air Quality Mitigation Manager (CAQMM) that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be outfitted with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road equipment larger than 100 hp, that equipment shall be outfitted with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the onsite CAQMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” if, among other reasons:

(1) There is no available soot filter that has been certified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or

(2) The construction equipment is intended to be on-site for ten (10) days or less.

The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the County is informed within one (1) working day of the termination:

(1) The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.

(2) The soot filter is causing or is reasonably expected to cause significant engine damage.

(3) The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.

(4) Any other seriously detrimental cause which has the approval of the County prior to the termination being implemented.

Relief may be granted from this requirement if the CAQMM can demonstrate to the County that a good faith effort has been made to comply with this requirement and that compliance is not possible.

In response to comment ABJC-65, the seventh and eighth bullet items in Mitigation Measure 4.2-1b on DEIR page 4.2-25 are modified as follows:

- ~~• Encourage construction worker commuters to carpool or employ other means to reduce trip generation.~~
- Offer incentives to encourage construction workers to carpool or employ other means of transportation. The incentives shall include, but are not necessarily limited to, preferential onsite parking and substantial assistance with transportation costs (gas cards, FasTrak toll passes, public transit passes, etc.).
- ~~• Allow a substantial portion of the construction workforce to avoid the morning and afternoon peak traffic periods.~~
- Schedule construction activities to allow at least 33% of the construction workforce to avoid the morning and afternoon peak traffic periods.

In response to comments BAAQMD-13 and ABJC-65, the ninth bullet item in Mitigation Measure 4.2-1b on DEIR page 4.2-25 is modified as follows:

- Use on-site power ~~when feasible~~ to reduce minimize reliance on portable generators.

In response to comments BAAQMD-15, the following bullet item is added to Mitigation Measure 4.2-1b on DEIR page 4.2-25 as follows:

- Diesel portable generators less than 50 horsepower shall not be allowed at the construction site, except for those used by welders.¹

In response to comment BAAQMD-15, the following bullet item is added to Mitigation Measure 4.2-1b on DEIR page 4.2-25:

- Mitigation Measure 4.2-1b shall be included in the construction bid documents and contracts.

To add mitigation measures from the “**Additional Construction Mitigation Measures**” subsection of Section 2.6, Master Response – Construction-Related Emissions, into the DEIR, a new measure, **Mitigation Measure 4.2-1c**, is added at DEIR page 4.2-25, following **Mitigation Measure 4.2-1b**.

Mitigation Measure 4.2-1c: To further reduce construction-related dust and exhaust emissions, ConocoPhillips shall comply with the following requirements:

- Employ a Construction Air Quality Mitigation Manager approved by the County to oversee implementation of the construction air quality mitigation measures.
- During earthmoving operations, apply water or a non-toxic soil stabilizer to backfill material in order to maintain a moisture level that is sufficient to minimize dust.
- Install fencing as needed to prevent unnecessary access to construction areas.
- Locate construction staging areas adjacent to the various construction sites.
- For stockpiles, maintain adequate moisture content to minimize dust, remove material from downwind side, avoid steep sides or faces, and stabilize material following disturbance.
- Empty loader buckets slowly and drop material from the minimum height necessary.
- Install track out control devices at exit points from the Refinery utilized by construction equipment.
- Pave all roadways, driveways, sidewalks, etc. as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Formulate a dust control plan for earth moving operations and designate a staff person to monitor the plan’s implementation.
- Post a publicly readable sign with the telephone number of a person to contact regarding dust complaints. The sign shall be placed in a conspicuous location on Refinery Property along San Pablo Avenue.
- Limit construction contractor parking to those areas indicated on Figure 3-10 on DEIR page 3-37. These areas shall be configured to minimize interference with local traffic, with ingress and egress limited to specified points.
- Consolidate truck deliveries when possible.

¹ Welding trucks have self-contained units with generators less than 50 horsepower.

- Establish a staging zone on Refinery property for trucks waiting to load and unload. This zone shall be established in an area where it will not impact Refinery neighbors.
- Locate construction equipment in the vicinity of sensitive receptors only if it is absolutely necessary in order to complete specific construction-related activities and move the equipment away from the receptors immediately after the activities have been completed.
- Include Mitigation Measure 4.2-1c in the construction bid documents and contracts.

In response to comment GNAC-2 and staff-initiated changes, Table 4.2-9 on DEIR page 4.2-26 is revised as follows:

**TABLE 4.2-9 REVISED
CFEP PSD APPLICABILITY**

| Pollutant | NO _x | CO | SO ₂ | VOC | PM ₁₀ |
|---|-----------------------------|-----------------------------|-----------------------------|-------|-----------------------------|
| Project Net Emissions Increase (tons per year) | 46.8 <u>52.7</u> | 64.4 <u>94.9</u> | 48.0 <u>48.7</u> | 33.6 | 21.7 |
| PSD Threshold (tons per year) | 40 | 100 | 40 | 40 | 15 |
| Exceeds PSD Threshold? | Yes | No | Yes | No | Yes |
| Cumulative Net Emissions Increase (tons per year) | 42.9 <u>41.5</u> | NA | 45.7 <u>16.5</u> | -12.6 | 23.8 <u>31.3</u> |
| PSD Threshold (tons per year) | 40 | 100 | 40 | 40 | 15 |
| Exceeds PSD Threshold? | Yes | No | No | No | Yes |

NOTE: Cargo carriers (i.e., emissions from ships and trains) are not counted when addressing PSD applicability.

SOURCE: ConocoPhillips, 2006 2007 (revised October 18 February 28).

As a staff-initiated change, in the **Reactive Organic Gas Reductions** paragraph, DEIR page 4.2-34, replace Mitigation Measure number ~~4.2-1~~ with 4.2-2a, as follows:

Therefore, Mitigation Measure ~~4.2-1~~ 4.2-2a (see ...

In response to Comment CP-16-7 and to incorporate revised emission quantities, the **Nitrogen Oxides Reductions** paragraph, DEIR page 4.2-37, is revised as follows:

Mitigation measure 4.2-2b shall be implemented, which would require a new catalyst to be installed that would reduce NO_x emissions by at least 1.5 ppm, thereby reducing NO_x emissions by ~~81121~~ pounds per day and 14.722.1 tons per year.

In response to Comment CP-16-8, the **Sulfur Dioxide and Particulate Matter Reductions** paragraph, DEIR page 4.2-37, is revised as follows:

... Therefore, Mitigation Measures ~~4.2-3~~ 4.2-2c and ~~4.2-4~~ 4.2-2d that would require SO₂ reductions and improved bag technology at the Carbon Plant, respectively, shall be implemented to reduce net ~~POCSO₂~~ and PM₁₀ emissions at the Refinery.

...

In response to Comment CP-16-9 and to incorporate revised emission quantities, the Use of ROG to Offset NO_x paragraph, DEIR page 4.2-38, is revised as follows:

... Mitigation Measure ~~4.2-1~~ 4.2-2e shall be implemented, which would result in an overall net decrease of approximately ~~36-27~~ pounds per day and ~~7.6-5.8~~ tons per year of ROG emissions compared to the baseline conditions.

To add updated information from Section 2.3 Master Response – Odor, into the DEIR, the last paragraph under Impact 4.2-3, DEIR page 4.2-39, is revised as follows:

~~Unrelated to the Proposed Project, ConocoPhillips is planning to~~ In addition, the Proposed Project includes the installation of a new odor abatement compressor to control odors from certain storage tanks that currently do not have odor control. This compressor ~~will~~ would serve as a back-up compressor for the flare gas recovery system. This ~~will~~ would eliminate some flaring events that have occurred in the past.

In response to comment BAAQMD-16, Tables 4.2-10 and 4.2-11 on DEIR pages 4.2-35 and 4.2-36 are revised to incorporate updated project air emissions calculations as shown on the following page.

The following reference is added to the EIR Section 4.2, Air Quality, References Section on page 4.2-40 of the DEIR:

ConocoPhillips, 2007. Revised EIR Emissions provided on March 21 by Bryan Lee of ERM.

The following references are deleted from the EIR Section 4.2, Air Quality, References Section on page 4.2-40 of the DEIR:

~~Air Liquide, Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, October 2006, with supplements.~~

~~ConocoPhillips, Rodeo Clean Fuels Expansion Project Air Quality Supplement, as revised September 2006.~~

**TABLE 4.2-10 REVISED
CONOCOPHILLIPS CFEP TOTAL PROJECT DAILY EMISSIONS (pounds per day)**

| Source | NO_x | SO₂ | PM₁₀ | ROG | CO |
|--|------------------------------------|------------------------------------|----------------------------------|------------------------------------|---------------------------------|
| New Unit 240/246 HGO Feed Heater | 18 | 26 | 12 | 8 | 43 |
| New SRU (Unit 235) | 29 <u>61</u> | 201 | 3 | 2 | 24 <u>208</u> |
| TGU Sulfur Loading Vent | 0 | 2 | 0 | 0 | 0 |
| Tanks 101, 168 & 169 Permit Condition Change | 0 | 0 | 0 | 44 | 0 |
| Existing Tanks | 0 | 0 | 0 | 26 | 0 |
| <u>New Butane Loading Rack</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>1</u> | <u>0</u> |
| Fugitives | 0 | 0 | 0 | 35 | 0 |
| Paved Roads | 0 | 0 | 6 | 0 | 0 |
| Unit 240 Boiler B-1 Reductions | -123 | 0 | -16 | -12 | -202 <u>-238</u> |
| Hydrogen Plant Emission Increases (Including New Cooling Tower) | 170 | 30 | <u>95</u> <u>98</u> | <u>82</u> <u>90</u> | 212 |
| Increased Heater Utilization | 40 | 7 | 17 | 13 | 15 |
| Increased Tank Utilization | 0 | 0 | 0 | 6 | 0 |
| Increased Railcars | 12.1 | 0.9 | 0.4 | 0.7 | 1.8 |
| Truck and Commuter Auto Trips | 12.1 | <0.1 | 0.4 | 0.9 | 14.6 |
| Proposed Project Emissions | 158 <u>190</u> | 267 <u>265</u> | 118 <u>121</u> | 206 <u>215</u> | 48 <u>256</u> |
| Applied Mitigation | | | | | |
| DAF Thermal Incinerator Reductions | 1 | <4 <u>7</u> | <1 | -242 | +1 |
| Refinery Steam Power Plant | -84 <u>-121</u> | 0 | 0 | 0 | 0 |
| Carbon Plant SO ₂ Reductions | 0 | -230 | 0 | 0 | 0 |
| Carbon Plant Baghouse | 0 | 0 | -44 <u>-44</u> | 0 | 0 |
| Use of ROG to Offset NO _x | -36 <u>-27</u> | 0 | 0 | <u>+36</u> <u>+27</u> | 0 |
| Mitigation Subtotal | -116 <u>-147</u> | -230 <u>-223</u> | -44 <u>-44</u> | -206 <u>-215</u> | +1 |
| Mitigated Project Emissions | <u>42</u> <u>43</u> | <u>37</u> <u>42</u> | <u>77</u> | <u>0</u> | <u>19</u> |
| Threshold | 80 | - | 80 | 80 | - |

SOURCE: ConocoPhillips, 2006 ~~2007~~, emissions revised October 18 ~~October 19~~. Air Liquide, *Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, October 2006*, with supplements.

**TABLE 4.2-11 REVISED
CONOCOPHILLIPS CFEP TOTAL PROJECT ANNUAL EMISSIONS (TONS PER YEAR)**

| Source | NO_x | SO₂ | PM₁₀ | ROG | CO |
|--|--|--|------------------------------------|--|------------------------------------|
| New Unit 240/246 HGO Feed Heater | 3.2 | 4.7 | 2.1 | 1.5 | 7.8 |
| New Unit 240/246 Startup/Shutdown | <0.01 | <0.01 | --- | 0.03 | <0.01 <u>0.02</u> |
| New SRU (Unit 235) | 5.3 <u>11.2</u> | 36.7 | 0.6 | 0.4 | 4.3 <u>37.9</u> |
| TGU Sulfur Loading Vent | 0 | 0.4 | 0 | 0 | 0 |
| Tanks 101, 168 & 169 Permit Condition Change | 0 | 0 | 0 | 8.1 | 0 |
| Existing Tanks | 0 | 0 | 0 | 4.8 | 0 |
| <u>New Butane Loading Rack</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0.2</u> | <u>0</u> |
| Fugitives | 0 | 0 | 0 | 6.3 | 0 |
| Paved Roads | 0 | 0 | 1.1 | 0 | 0 |
| Unit 240 Boiler B-1 Reductions | -22.4 | 0 | -2.9 | -2.1 | -53.3 <u>-43.4</u> |
| Hydrogen Plant Emission Increases (Including New Cooling Tower) | 28.2 | 5.0 | 45.8 <u>16.3</u> | 43.8 <u>15.4</u> | 35.2 |
| Hydrogen Plant Startup/Shutdown | 2.7 | 0 | 0 | 0.1 | 11.0 |
| Increased Heater Utilization | 7.2 | 1.2 | 3.1 | 2.3 | 2.8 |
| Increased Tank Utilization | 0 | 0 | 0 | 1.0 | 0 |
| Increased Railcars | 2.2 | 0.2 | 0.1 | 0.1 | 0.3 |
| Truck and Commuter Auto Trips | 2.2 | <0.1 | 0.1 | 0.2 | 2.7 |
| Proposed Project Emissions | 28.6 <u>34.5</u> | 48.2 <u>47.8</u> | 20.0 <u>20.5</u> | 36.5 <u>38.3</u> | 10.8 <u>54.3</u> |
| Applied Mitigation | | | | | |
| Carbon Plant SO ₂ Reductions | 0 | -42.0 | 0 | 0 | 0 |
| DAF Thermal Incinerator Reductions | 0.2 | 0.02 <u>1.2</u> | 0.01 | -44.1 | 0.2 |
| Refinery Steam Power Plant | -14.7 <u>-22.1</u> | 0 | 0 | 0 | 0 |
| Carbon Plant Baghouse | 0 | 0 | -7.5 <u>-8.0</u> | 0 | 0 |
| Use of ROG to Offset NO _x | -7.6 <u>-5.8</u> | 0 | 0 | +7.6 <u>+5.8</u> | 0 |
| Mitigation Subtotal | -22.1 <u>-27.7</u> | -42.0 <u>-40.8</u> | -7.5 <u>-8.0</u> | -36.5 <u>-38.3</u> | 0.2 |
| Mitigated Project Emissions | 6.5 <u>6.8</u> | 6.2 <u>7.0</u> | 12.4 <u>12.5</u> | 0.0 | 11.0 <u>54.5</u> |
| Threshold | 15 | - | 15 | 15 | - |

SOURCES: ConocoPhillips, 2006 2007, emissions revised October 18 October 19. Air Liquide, Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, October 2006, with supplements.

In response to comment BAAQMD-2, the following text is added following the end of Section 4.5 at page 4.2-40 of the DEIR:

4.2.6 Project-Related Greenhouse Gas Emissions

An analysis of the Proposed Project's GHG emissions has been developed and is included here. The emissions reported below and shown in Table 4.2-12 are calculated according to the protocol established by the Registry, and will be reported to the Registry consistently with that protocol.² Additionally, the American Petroleum Institute (API) Compendium of Greenhouse Gas (GHG) Emissions Methodologies for the Oil and Gas Industry is used.

**TABLE 4.2-12
CFEP TOTAL PROJECT ANNUAL CO₂ EMISSIONS (metric tons per year)**

| | <u>CO₂^a</u> |
|---|-----------------------------------|
| <u>Refinery Sources</u> | |
| <u>New Unit 240/246 HGO Feed Heater</u> | <u>47,284</u> |
| <u>New SRU (Unit 235)</u> | <u>10,013</u> |
| <u>Unit 240 B-1 Boiler Reductions^b</u> | <u>-64,529</u> |
| <u>Increased Heater Utilization</u> | <u>69,536</u> |
| <u>Dissolved Air Flotation (DAF) Unit^c</u> | <u>146</u> |
| <u>Railcar Emissions^d</u> | <u>108</u> |
| <u>Truck and Commuter Auto Trips^e</u> | <u>32</u> |
| <u>Total Refinery Emissions^f</u> | <u>62,590</u> |
| <u>Hydrogen Plant Sources</u> | |
| <u>Hydrogen Plant Emission Increases</u> | <u>1,169,994</u> |
| <u>Total Direct Emissions From Project Sources</u> | <u>1,232,585</u> |
| <u>Indirect Electricity Emissions^g</u> | <u>19,049</u> |

^a The CO₂ emission factor is based on the average carbon content of the refinery fuel gas measured from fuel samples. This emission factor is comparable to the Higher Heating Value for other typical refinery fuels used provided in the API Compendium. Additionally, ConocoPhillips is a member of the Registry, so methodologies are consistent with the Registry General Reporting Protocol.

^b The Unit 240 B-1 Boiler would be shut down.

^c The DAF Unit emissions are due to the installation of a new thermal oxidizer that would control VOC emissions (a collateral benefit of the DAF emission control would be capture and destruction of methane emissions from the DAF process).

^d CO₂ emissions from railcar trips are based on emission factors provided in the Registry General Protocol. Each railcar trip includes one trip with empty railcars and a return trip with full railcars.

^e CO₂ emissions from truck and commuter auto trips were determined based on the Road Emission Factor Model (EMFAC 2002) developed by the California Air Resources Board and daily vehicle traffic in the refinery.

^f Flaring may be necessary when the Hydrogen Plant or the New Unit 240/246 is shut down. The GHG emissions from flaring would be based on refinery fuel gas or natural gas feed that would be rerouted to the flare, or clean hydrogen product that would not have GHGs. Both the Hydrogen Plant furnace and the HGO Feed Heater emissions of GHGs in the above table have been calculated based on maximum design capacity and operation for 8,760 hours per year. Therefore, GHGs from fuel that would be rerouted to the flare during startups and shutdowns has already been addressed in the GHG calculations that are based on the capacity of the Hydrogen Plant and HGO heater. Calculating the amount of GHGs from the flare would be double counting.

² The emission calculations for the Project follow the method described in the *California Climate Action Registry General Reporting Protocol (Chapter 8 – Direct Emissions from Stationary Sources)*. In addition, indirect CO₂ emissions from hydrogen production related to the Air Liquide Hydrogen Plant are provided although such reporting may not be a requirement of the protocol (per *Chapter 3 – Operational Boundaries: Required Direct and Indirect Emissions*).

⁹ Indirect Electricity Emissions are calculated to represent the import of 9.8 MW for 24 hours a day and 365 days a year (peak use) from PG&E and emission factors provided by the Registry Protocol. The Registry stipulates that any organization that purchases electricity from an electric utility must report indirect emissions. These indirect emissions are reported separately to the Registry by the energy provider and should not be added with direct emissions. Adding them together would be considered double counting of emissions.

Carbon Dioxide

Emissions from the Air Liquide Hydrogen Plant - The vast majority of CO₂ emissions from the Proposed Project would be attributable to the Hydrogen Plant that would be constructed, owned, and operated by Air Liquide. The Hydrogen Plant, when operating at full capacity of 120 million standard cubic feet per day (SCFD), would generate approximately 1.17 million metric tons per year of CO₂.

Emissions from the ConocoPhillips Refinery - The remainder of the Proposed Project's CO₂ emissions would be 62,590 metric tons per year – including the 69,459 metric tons/year reduction of CO₂ emissions from the shutdown of the Unit 240 B-1 Boiler – that would be generated from ConocoPhillips' equipment.

Other GHG Emissions

Methane emissions after implementation of the Proposed Project would be expected to decrease from current emission levels. Currently, methane emissions from the Dissolved Air Floatation (DAF) units, part of the wastewater treatment process, are emitted directly to the atmosphere. Under the Proposed Project, those methane emissions would be captured and destroyed in the thermal incinerator. Other GHG emissions from the project are expected to be *de minimis*.³

Conclusions

Under CEQA, the purpose of an environmental impact report is to identify the significant environmental effects of a project (if any), to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided. (*Public Resources Code § 21002.1(a)*.) “Significant effect” is defined under CEQA as “a substantial or potentially substantial, adverse change in the environment.” (*Public Resources Code § 21068*.)

The State of California has not provided guidance as to significance thresholds for assessing the impact of greenhouse gas emissions on climate change and global warming concerns. Nothing in the CEQA guidelines has yet addressed this issue. The BAAQMD acknowledged the lack of clear guidance or established methodology to evaluate the impacts of GHGs when it commented on the DEIR for the Proposed Project, noting that the discussion in the DEIR “may not conclude with a significance determination nor require

³ Consistent with the Registry's General Reporting Protocol, Chapter 5 – *De Minimis Emissions and Significance*, the aggregate non-CO₂ GHG emissions from the Proposed Project would be considered to be *de minimis*. The estimated Proposed Project emissions of N₂O would be 2.1 metric tons.

mitigation measures since the District has not yet established thresholds for greenhouse gas emissions.” (BAAQMD, 2007).

It is not possible to draw conclusions about the significance of Proposed Project impacts on global warming in the absence of established thresholds, and therefore any conclusion about these impacts or their mitigation is premature. In such circumstances, the CEQA Guidelines instruct that the lead agency “should note its conclusion and terminate discussion of the impact.” (Guidelines, § 15145). Consequently, aside from noting that the Proposed Project must comply with the rules and regulations ultimately adopted to address GHG emissions, the FEIR does not state conclusions about the extent of any impacts or potential mitigation.

In response to comment BAAQMD-16, the following references are deleted on page 4.2-40 of the DEIR:

~~*Air Liquide, Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, October 2006, with supplements.*~~

~~*ConocoPhillips, Rodeo Clean Fuels Expansion Project Air Quality Supplement, as revised September 2006.*~~

In response to comments BAAQMD-2, BAAQMD-10, BAAQMD-16, ABJC-12 and staff initiated changes, the following references are added at the end of page 4.2-40 of the DEIR:

Air Liquide, Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, October 2005.

Air Liquide, Hydrogen Plant Project Authority to Construct Application and Significant Revision of Major Facility Permit, Project Update Document, September 2006.

Bay Area Air Quality Management District (BAAQMD), 2006. Source Inventory of Bay Area Greenhouse Gas Emissions. November 2006. Table E-2.

BAAQMD, 2007. Comments on the ConocoPhillips Clean Fuels Expansion Project Draft Environmental Impact Report. January 4, 2007. p.1

California Air Resources Board (CARB), 2006a. Climate Change website (<http://www.arb.ca.gov/cc/120106workshop/intropres12106.pdf>) accessed December 1, 2006.

CARB, 2006b. Personal communication with Chuck Shulock by K. Faubion, Attorney for the City of Pittsburg, December 4, 2006).

California Energy Commission (CEC), 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. December 2006.

ConocoPhillips. Clean Fuels Expansion Project Authority to Construct Application and Significant Revision of Major Facility Permit, May 2006a.

ConocoPhillips. Clean Fuels Expansion Project Authority to Construct Application and Significant Revision of Major Facility Permit, Project Update Document #1, September, 2006b.

ConocoPhillips. Clean Fuels Expansion Project Authority to Construct Application and Significant Revision of Major Facility Permit, Project Update Document #2, October, 2006c

ConocoPhillips, 2007. Revised EIR Emissions provided on March 21 by Bryan Lee of ERM.

Intergovernmental Panel on Climate Change (IPCC), 2001. Climate Change 2001: Working Group I: The Scientific Basis, Section F.5, Table 4; <http://www.grida.no/climate/ipcc%5Ftar/wg1/032.htm#f5>, accessed February 26, 2007.

Uyeda, Valerie J., Permit Manager, ConocoPhillips San Francisco Refinery, Personal Communication, November 2006.

4.3 Biological Resources

In response to comment CP-16-10, the fourth paragraph on page 4.3-7 is revised as follows:

The butane loading rack would be constructed near the western shore of the Refinery just west of the long wharf at the Refinery within an existing rail loading facility.

4.4 Cultural Resources

In response to comment CHRIS-3, the text in the last row of Table 4.4-1, DEIR page 4.4-4 is revised as follows:

| Site Designation | Location | Age | Description | Comments | Comments |
|--------------------|-----------------------|----------------------|-------------------|----------|-------------------------|
| S-23070 | Selby Industrial Site | No cultural material | Pedestrian Survey | | Busby, Colin |
| <u>S-21519</u> | | | | | <u>Busby (1999)</u> |

In response to comment CHRIS-4, the text in the second bullet under California Public Resources Code on DEIR page 4.4-6 is revised as follows:

- Title 14, Public Resource Code, Section 5097.989 – prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn; sets penalties.

In response to comment CHRIS-5, the last sentence of the first paragraph on DEIR page 4.4-7 is revised as follows:

These measures are provided in Mitigation Measure 4.4-23 below.

In response to comment CHRIS-6, DEIR pages 4.4-10 and 4.4-11, Mitigation Measure 4.4-3 is revised as follows:

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; ~~or~~, as amended by AB 2641; or.
- (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within ~~2448~~ hours after being notified by the Commission;

4.5 Energy

In response to comments BAAQMD-19 and CP-11, the fourth bullet of the section summary, DEIR page 4.5-1, is modified as follows:

- Proposed Project operations would require purchase of an additional 9.8 MW of electrical power, which would be supplied by PG&E; however, ConocoPhillips would continue to export 12 MW to PG&E from its Carbon Plant. The combined result would be a net export of 2.2 MW of electricity from the Refinery and Carbon Plant.

As a staff-initiated change, Impact 4.5-1, DEIR page 4.5-10, is modified as follows:

Impact 4.5-1: The construction and operation of the Proposed Project would result in ~~wasteful or unnecessary~~ consumption of energy. This would be a less-than-significant impact.

As a staff-initiated change, the first line of paragraph 4 of DEIR page 4.5-12, is modified as follows:

... ConocoPhillips ~~will~~ would continue to be a ~~next net~~ exporter of electricity...

*In response to comment CP-16-11, the entries in Table 4.5-4 on DEIR page 4.5-11 in the columns “Project Peak Heat Input Use” and “Change in Project Peak Heat Input Use” for the Hydrogen Plant heater and for the **Total** are revised as follows:*

| | | | | |
|------------------------|--------------------|----------------|---------------------|-----------------|
| New Hydrogen Plant,... | 4,300 | <u>1,072</u> | +4,300 | <u>+1,072</u> |
| Total | 2,530.5 | <u>2,302.5</u> | +1,273.5 | <u>+1,045.5</u> |

4.7 Public Health

As discussed in Section 2.6, Master Response Construction-Related Effects, Table 4.7-2 on page 4.7-6 of the DEIR is completely replaced with Table 4.7-2 REVISED, below:

**TABLE 4.7-2 REVISED
SUMMARY OF POTENTIAL HEALTH RISK FROM PROJECT CONSTRUCTION,
INCLUDING CFEP AND HYDROGEN PLANT CONSTRUCTION TRUCK EMISSIONS¹**

| Type of Estimated Health Impact | Cancer Risk (per million) | Chronic Hazard Index | Acute Hazard Index |
|--|------------------------------|-------------------------|-----------------------|
| Maximum Exposed Individual Worker (MEIW) 565982E, 4211241N | 0.504 | 1.60E-03 | 1.27E-02 |
| Maximum Exposed Individual Residential (MEIR) 566185E, 4211393N | 2.06 | 1.30E-03 | 5.58E-03 |
| Carcinogenic Risk at the Point of Maximum Downwind Impact (PMI) 565982E, 4211241N | 2.56 | – | – |
| Maximum Chronic Noncancer Hazard Index at PMI 565982E, 4211241N | – | 1.60E-03 | – |
| Maximum Acute Noncancer Hazard Index at PMI on property boundary | – | – | 1.27E-02 |

¹ The risk assessment includes results for 40 daily truck roundtrips, 22 days/year, and 12 months/year modeled as a volume source and accounting for travel in the vicinity of the project.

SOURCE: ERM, Revised Modeling of Construction Emissions, February 2007.

In response to comment BAAQMD-20, Table 4.7-3, beginning on DEIR page 4.7-6, is revised as follows:

**TABLE 4.7-3 REVISED
SUMMARY OF TOXIC AIR CONTAMINANT EMISSIONS—ANNUAL EMISSIONS**

| Substance | Annual Emissions | |
|-----------------------------------|--|---------------------------------|
| | Total Annual Emissions (lb/yr) ¹ | BAAQMD Trigger Level (lb/yr) |
| Acenaphthene | 2.49E-02 | NA |
| Acenaphthylene | 1.63E-02 | NA |
| Acetaldehyde | 1.61E+02 | 6.4E+01 |
| Acrolein | 4.69E-02 | 2.3E+00 |
| Ammonia | 5.72E+04 6.49E+04 | 7.7E+03 |
| Antimony | 5.45E+00 | 7.7E+00 |
| Arsenic | 8.96E+00 | 1.2E-02 |
| Benzene | 1.01E+03 | 6.4E+00 |
| Benzo(a)anthracene ² | 3.38E-01 | 1.1E-02 |
| Benzo(a)pyrene ² | 9.44E-01 | 1.1E-02 |
| Benzo(b)fluoranthene ² | 4.26E-01 | 1.1E-02 |
| Benzo(k)fluoranthene ² | 2.54E-01 | 1.1E-02 |
| 1,3-Butadiene | 4.84E+00 | NA <u>1.2 E+00</u> |

| Substance | Annual Emissions | |
|-------------------------------------|---|------------------------------|
| | Total Annual Emissions (lb/yr) ¹ | BAAQMD Trigger Level (lb/yr) |
| Cadmium | 1.04E+01 | 4.5E-02 |
| Chlorine | 3.95E-02 | NA 7.7 E+00 |
| Chloroform | 9.97E+00 | NA 34.0 E+00 |
| Chromium (Total) | 1.13E+01 | 1.3E-03 |
| Chrysene | 1.72E-02 | NA |
| Copper | 4.44E+01 | 9.3E+01 |
| Cyclohexane | 1.59E+02 | NA |
| Ethylbenzene | 4.43E+02 | 7.7E+04 |
| Fluoranthene | 3.22E-02 | NA |
| Fluorene | 1.14E-01 | NA |
| Formaldehyde | 1.17E+03 | 3.0E+01 |
| n-Hexane | 1.75E+03 | 2.7E+05 |
| 1,2,3,4,7,8 -HxCDD ³ | 1.11E-06 | 5.7E-07 |
| 1,2,3,6,7,8- HxCDD ³ | 2.72E-06 | 5.7E-07 |
| 1,2,3,7,8,9- HxCDD ³ | 1.79E-06 | 5.7E-07 |
| 1,2,3,4,7,8 -HxCDF ³ | 1.52E-05 | 5.7E-07 |
| 1,2,3,6,7,8- HxCDF ³ | 1.15E-05 | 5.7E-07 |
| 2,3,4,6,7,8- HxCDF ³ | 1.00E-05 | 5.7E-07 |
| 1,2,3,7,8,9- HxCDF ³ | 1.40E-06 | 5.7E-07 |
| 1,2,3,4,6,7,8- HpCDD ³ | 9.73E-06 | 5.7E-07 |
| 1,2,3,4,6,7,8- HpCDF ³ | 5.14E-05 | 5.7E-07 |
| 1,2,3,4,7,8,9- HpCDF ³ | 4.66E-06 | 5.7E-07 |
| <u>Hydrogen Sulfide</u> | <u>2.01E+03</u> | <u>3.9E+02</u> |
| Indeno(1,2,3-cd)pyrene ² | 1.09E+00 | 1.1E-02 |
| Lead | 5.15E+01 | 5.4E+00 |
| Manganese | 7.17E+01 | 7.7E+00 |
| Mercury | 1.90E+00 | 5.6E-01 |
| Methanol | 1.75E+04 | NA 1.5 E+05 |
| Naphthalene | 1.49E+01 | 5.3E+00 |
| Nickel | 9.92E+01 | 7.3E-01 |
| OCDD ³ | 4.90E-06 | 5.7E-07 |
| OCDF ³ | 1.21E-05 | 5.7E-07 |
| PCBs (Total) | 4.44E-03 | 2.8E-02 |
| 1,2,3,7,8 -PeCDD ³ | 9.19E-07 | 5.7E-07 |
| 1,2,3,7,8 -PeCDF ³ | 5.51E-06 | 5.7E-07 |
| 2,3,4,7,8 -PeCDF ³ | 7.51E-06 | 5.7E-07 |
| Phenanthrene | 1.54E-01 | NA |
| Phenol | 5.93E+01 | 7.7E+03 |
| Propylene | 3.43E+01 | 1.2E+05 |
| Pyrene | 2.61E-02 | NA |
| Selenium | 2.06E-01 | 7.7E+02 |
| Silver | 1.70E+01 | NA |
| <u>Sulfuric Acid</u> | <u>1.13E+04</u> | <u>3.9E+01</u> |

| Substance | Annual Emissions | |
|---------------------------|---|------------------------------|
| | Total Annual Emissions (lb/yr) ¹ | BAAQMD Trigger Level (lb/yr) |
| 2,3,7,8-TCDD ³ | 5.12E-08 | 5.7E-07 |
| 2,3,7,8-TCDF ³ | 1.95E-06 | 5.7E-07 |
| Toluene | 1.93E+03 | 1.2E+04 |
| 1,2,4-Trimethylbenzene | 1.82E+02 | NA |
| Xylene (Total) | 9.80E+02 | 2.7E+04 |
| Zinc | 2.19E+02 | 1.4E+03 |

1. Bold values indicate emissions over the BAAQMD trigger levels.
2. These substances are different polycyclic aromatic hydrocarbon (PAH) isomers that have OEHHA-developed Potency Equivalency Factors. These individual PAHs should be evaluated as equivalents to the benzo(a)pyrene isomer. This evaluation process consists of multiplying individual PAH-specific emission levels with their Potency Equivalency Factor, which are listed in footnote 9 of Table 2-5-1 of BAAQMD Rule 2-5. The sum of these products is the benzo(a)pyrene-equivalent level and should be compared to the benzo(a)pyrene-equivalent trigger level of 1.1E-02 lb/year. Collectively, the PAHs in Table 2 exceed this level.
3. These substances are different polychlorinated dibenzo-p-dioxins ("dioxins") and polychlorinated dibenzofurans ("furans") congeners that have OEHHA-adopted Toxicity Equivalency Factors. These individual dioxin/furan congeners should be evaluated as equivalents to the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) congener. This evaluation process consists of multiplying individual congener-specific emission levels with their Toxicity Equivalency Factor, which are listed in footnote 8 of Table 2-5-1 of BAAQMD Rule 2-5. The sum of these products is the 2,3,7,8-TCDD equivalent level and should be compared to the 2,3,7,8-TCDD-equivalent trigger level of 5.7E-07 lb/year. Collectively, the dioxins/furans in Table 2 exceed this level.

In response to comment ABJC-44, Table 4.7-4, on DEIR page 4.7-9, is completely replaced by Table 4.7-4 REVISED as follows:

**TABLE 4.7-4 REVISED
SUMMARY OF INCREMENTAL HEALTH RISKS FROM PROPOSED PROJECT OPERATIONS**

| Type of Estimated Health Impact ^a | Cancer Risk (per million) | Chronic Hazard Index ^b | Acute Hazard Index ^b |
|---|---------------------------|-----------------------------------|---------------------------------|
| Maximum Exposed Individual Worker (MEIW) 566076E, 4211562N | 0.557 | 0.127 | 0.0545 |
| Maximum Exposed Individual Residential (MEIR) 566185E, 4211393N | 1.63 | 0.0470 | 0.0149 |
| Residential Carcinogenic Risk at the Point of Maximum Downwind Impact (PMI) 566076E, 4211562N | 2.92 | | |
| Chronic Noncancer Hazard Index at PMI 566116E, 4211542N | | 0.127 | |
| Acute Noncancer Hazard Index at PMI on San Pablo Avenue | | | 0.0545 |

^a Urban dispersion coefficients produced the highest risk results for cancer and chronic risks, and rural dispersion coefficients produced the highest acute risk results.

^b Chronic and Acute Hazard Index results are updated in accordance with the response to BAAQMD Comment 22.

Notes: Includes updated delivery truck round trip mileage and ammonia, sulfuric acid mist, and hydrogen sulfide emissions from the new Unit 235 SRU.

In response to comment CP-12, the second paragraph on page 4.7-9 is revised as follows:

The Ultra low sulfur diesel and the delayed coker projects ~~Most of the cumulative ConocoPhillips projects~~ at the Refinery that are identified in Section 5.2.3, *Specific Projects Considered in the Cumulative Analysis*, were included and evaluated previously in an EIR for the ULSD Project. A health risk assessment provided by ConocoPhillips for the Proposed Project addressed cumulative impacts of more-recent projects.

4.9 Hydrology and Water Quality

In response to comment BCDC-6, footnote 1 is added to DEIR page 4.9-16, at the end of the last bullet point under the heading “Bay Conservation and Development Commission”, with the footnote as follows:

1 BCDC states that ConocoPhillips’ Oil Spill Contingency and Response Plan for an accidental spill is consistent with BCDC’s San Francisco Bay Plan oil spill prevention policies (see letter from Linda Scourtis, Coastal Planner, BCDC, December 22, 2006).

4.10 Land Use, Plans and Policies

In response to comment CP-16-12, DEIR page 4.10-6, third paragraph, third sentence, is revised as follows:

Primary design and construction of this area occurred from 1950 to 1970.-

In response to comment CP-16-13, DEIR page 4.10-7, fourth paragraph, second sentence is revised as follows:

The following policies ~~apply~~ are applicable to the Proposed Project.

In response to comment BCDC-1, DEIR page 4.10-8, paragraph 4, last sentence is revised as follows:

BCDC jurisdiction is defined as the band of land 100 feet shoreward from the ~~line of highest tidal action~~ mean high tide line, and specified tributary creeks.

In response to comment BCDC-3, DEIR page 4.10-9, paragraph 1, is revised as follows:

The Bay Plan identifies ~~five~~ high priority uses of the Bay and shoreline for which shoreline areas should be reserved. These “priority uses” ~~are~~ include ports, water-related industry, airports, wildlife refuges, and water-related recreation. Plan Map ~~15~~ 2 of the San Francisco Bay Plan designates the Refinery as a ~~port~~ and as a water-related industry.

In addition, the following policies distinctly applicable to ports, DEIR page 4.10-9, are deleted:

Ports

~~*Policy 1: Development of port facilities with the least potential adverse environmental impacts while still providing for reasonable terminal development.*~~

~~*Policy 3:* Port priority use areas should be protected for marine terminals and directly related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including trucking and railroad yards, freight forwarders, government offices related to the port activity, handlers, and marine services. Other uses, especially public access and public and commercial recreational development should also be permissible uses provided they do not significantly impair the efficient utilization of the port area.~~

4.11 Noise

To add updated information from Section 2.6, Master Response – Construction-Related Effects and in response to CCC-1, the following is added as the second sentence under impact 4.11-3, DEIR page 4.11-13:

Consistent with Policy 11-8 of the County General Plan, construction activities are proposed to occur weekdays during an 8- to 10 hour shift (starting at 7:00 a.m., and ending as early as 3:30 p.m. and as late as 5:30 p.m.).

4.12 Public Services

In response to comment CP-16-14, the text on DEIR page 4.12-6 is revised as follows:

Impact ~~4.12-3~~ 4.12-1: The Proposed Project together with proposed and planned future ...

4.13 Transportation and Traffic

On DEIR page 4.13-21, the following publication was incorrectly included as a reference for Section 4.13, Transportation and Traffic, and is deleted:

~~Contra Costa County Public Works, *Parker Avenue Improvements Newsletter*, March 2006.~~

4.14 Utilities and Service Systems

In response to Comment CP-2, DEIR page 4.14-1 adds the following bullet points to the summary box:

- There will be an increased demand for natural gas when refinery fuel gas supplies are not adequate.
- A net increase demand of 9.8 MW of electricity would be required, which would be supplied by PG&E; however, the Carbon Plant exports 12 MW of electricity to PG&E, so combined, the Refinery and Carbon Plant together would still be a net exporter of 2.2 MW of electricity.

In response to comment EBMUD-1, DEIR page 4.14-2, paragraph 2, sentence 3 is revised as follows:

~~The Orinda Water Treatment Plant, which supplies potable water to Richmond and the Proposed Project site, has a treatment capacity of 200 MGD and is operating at approximately 70 percent capacity (EBMUD, 2005a). Potable water to the Proposed Project site can be supplied by EBMUD's Orinda or Sobrante Water Treatment Plant, depending on regional demands.~~

In response to comment EBMUD-9, on DEIR page 4.14-2, the following paragraph is replaced as follows:

~~The demand for water in the EBMUD's service area is projected to increase to 250 MGD by the year 2020. This projection assumes that the existing EBMUD conservation programs would reduce annual demand by 6 MGD; wastewater reclamation would decrease demand for freshwater by 7 MGD; and the ongoing replacement of water using devices with higher efficiency units would reduce demand by 14 MGD. The Updated Water Supply Management Program that has been adopted by the District for the year 2020 district-wide demand sets minimum performance goals for water supply in the service area including reliability, flexibility, and the minimization of water rationing. Key components of the Program are water conservation and reclamation.~~

The demand for water in EBMUD's service area is projected to increase to 232 MGD by the year 2030. This projection assumes that the existing EBMUD water conservation program would reduce annual demand by 35 MGD and the water recycling program would decrease water demand by 14 MGD. EBMUD's 2005 Urban Water Management Plan (UWMP) was adopted on November 22, 2005 by the EBMUD Board of Directors to meet year 2030 district-wide demand. The UWMP sets minimum performance goals for water supply in the service area including reliability, flexibility, and the minimization of water rationing. Key components of the UWMP are water conservation and water recycling.

*In response to comment EBMUD-10, on DEIR page 4.14-3, the word "recycled" replaces the word "reclaimed" and a second paragraph is added under the heading "**Refinery Water Demand and Reuse**", as follows:*

The most common industrial water reuse application is for cooling, but ~~reclaimed~~ recycled water can also be used for boiler feedwater, as process water, and for washdown. Other uses of ~~reclaimed~~ recycled water are dust control and soil compaction during construction, as well as landscape irrigation.

At the time of the DEIR preparation, EBMUD staff and ConocoPhillips were working together on a feasibility study to evaluate the use of high-purity recycled water for ConocoPhillips' boiler feedwater systems. The high-purity recycled water project could be implemented by the end of 2011. A portion of the high-purity water needs for the Proposed Project could potentially be met from the high-purity recycled water project. EBMUD has indicated that it will continue close coordination with ConocoPhillips with regards to the feasibility and cost-effectiveness in using high-purity recycled water for the Proposed Project.

As a staff-initiated change and in response to the findings of the Water Supply Assessment prepared and adopted by EBMUD, the text beginning at the fifth line of the first paragraph under Impact Statement 4.14-1 on DEIR page 4.14-9 is revised as follows:

the wash-down station and potable water. New tie-in piping would be required to serve the Hydrogen Plant. At the basic operating level of the Hydrogen Plant, The Proposed Project would require approximately 537 additional gallons per minute (GPM) of water, which is 0.77 MGD or approximately 858 acre-feet per year (ConocoPhillips, 2005).

~~In order to use this additional water, new tie-in piping would be required at the Hydrogen Plant.~~ At full capacity hydrogen production, the Hydrogen Plant would consume up to an additional 230 GPM of water, so the full water demand for the Proposed Project This would be a total of 767 GPM, which is 1.1 MGD or approximately 1,225 acre-feet per year. The additional water required for the Proposed Project is available from EBMUD's existing entitlements. This impact would be less than significant.

In response to comment CP-13, the last sentence under Impact 4.14-1 on DEIR page 4.14-9 is revised as follows: (Note: These changes do not affect the DEIR's determination of significance.)

The additional water supply demand during Proposed Project construction ~~and operation~~ would only be a small, temporary increment as compared to existing water usage. Thus, that contribution to the water supply demand would be less than significant.

4.15 Agricultural Resources

No changes.

4.16 Mineral Resources

On DEIR page 4.16-5, the following was incorrectly included as a reference for Section 4.16, Mineral Resources, and has been deleted:

~~Cal. Pub. Res. Code § 3000 et seq. California Public Resources Code Section 3000.~~

4.17 Employment, Population and Housing

No changes.

4.18 Parks and Recreation

No changes.

Chapter 5, CEQA Statutory Sections

No changes.

Chapter 6, Analysis of Alternatives

No changes.

Chapter 7, Report Preparation

No changes.

Chapter 8, Glossary and Acronyms

No changes.