# 21.0 SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS

As per the California Environmental Quality Act (CEQA), Section 15126, this chapter describes significant and unavoidable environmental impacts and irreversible environmental changes associated with the proposed WesPac Energy–Pittsburg LLC (WesPac) Pittsburg Energy Infrastructure Project (project), which, even after incorporation of available and feasible mitigation measures, cannot be avoided.

Significant environmental impacts of the proposed project are defined as those that would remain significant and unavoidable after the incorporation of feasible mitigation measures. Irreversible environmental changes represent long-term environmental damages that could result from the proposed project.

## 21.1 INTRODUCTION

The CEQA Guidelines require a description of the environmental setting before the commencement of the project in order to examine and analyze the effects of the physical changes in the environment after the project is completed. The impact analysis focuses both on routine operating conditions—at the Rail Transload Operations Facility (Rail Transload Facility), marine terminal, storage terminal, and pipeline connections—and on accidents that could occur during routine operations. Routine operations are those daily activities involved in the receipt and/or delivery of crude oil and partially refined crude oil by the WesPac Energy-Pittsburg Terminal (Terminal), and transfer of product between: (1) offshore marine vessels and storage terminal, (2) Rail Transload Facility and storage terminal, (3) on-site storage tanks (all located within the storage terminal), and (4) storage terminal to common-carrier pipelines. Accident conditions addressed include various types of oil spills and their resultant consequences.

## 21.2 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROJECT THAT CANNOT BE MITIGATED TO LESS THAN SIGNIFICANT

As per CEQA (Section 15126[b]), significant environmental impacts that cannot be avoided are presented below. These impacts would remain significant and unavoidable even after incorporation of available and feasible mitigation measures.

### 21.2.1 Spill Effects on Aesthetics

As discussed in Chapter 3.0: Aesthetics, an accidental spill of oil at or near the Terminal and/or Rail Transload Facility would potentially degrade the visual quality of the water and/or the shoreline (refer to Impact AE-7). The degree of impact is influenced by factors such as location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the shoreline, and effectiveness of early containment and cleanup efforts. Oiling onshore could result in a negative impression of the viewshed that has the potential to result in significant adverse impacts if residual effects remain after first-response containment and cleanup. In addition, spills along the outer coast could result in significant impacts, especially where spills would be visible near shore or at the shoreline and where residual effects may remain after initial cleanup operations. The presence of the oil on the water would change the color and, in heavier oiling, the textural appearance of the water surface. The presence of the oil on shoreline surfaces could result in the covering of these surfaces with a brownish to blackish slick or gooey covering. Oil spill events in which medium to heavy oiling is encountered over a widespread area and where cleanup efforts and residual effects of oiling may be observed for a relatively long period of time, significant and unavoidable adverse impacts on the aesthetic resources of the beach area are projected. The labor and equipment involved in the cleanup itself would also contribute to the visual impact. Since a spill cannot be completely avoided even with spill prevention measures in place, these impacts would remain significant.

For a more detailed discussion of the visual impacts associated with accidental oil spills, refer to Chapter 3.0: Aesthetics.

### 21.2.2 Construction Effects on Air Quality

As discussed in Chapter 4.0: Air Quality, the proposed project would generate emissions from construction equipment in excess of adopted Bay Area Air Quality Management District (BAAQMD) thresholds; therefore, the project is considered to have a significant and unavoidable impact to air quality under CEQA (refer to Impacts AQ-1 and AQ-2). Unmitigated average daily construction emissions exceed the BAAQMD CEQA thresholds for nitrogen oxide ($NO_x$). The largest source of construction emissions is expected to be tug and barge emissions during construction of the wharf and other marine features. However, as discussed in Chapter 4.0, construction operations would be performed using the required best management practices established by the BAAQMD CEQA Guidelines for the control of fugitive dust (both particulate matter $PM_{10}$ and $PM_{2.5}$) and, therefore, these emissions would be considered less than significant as per the BAAQMD CEQA thresholds of significance. With additional mitigation (refer to Mitigation Measures AQ-1 and AQ-2), the average daily construction-related $NO_x$ emissions would be reduced, but would remain above the threshold of significance and, therefore, would remain significant under CEQA. In addition, Mitigation Measure AQ-1 would increase precursor organic

compounds emissions to a level greater than the significance threshold and, therefore, this impact would become significant under CEQA.

### 21.2.3 Operational Effects on Greenhouse Gases

As discussed in Chapter 5.0: Greenhouse Gas Emissions, operation of the proposed project would generate greenhouse gas (GHG) emissions in excess of adopted BAAQMD thresholds; therefore, the project is considered to have a significant and unavoidable impact under CEQA (refer to Impact GG-2). However, the increase in greenhouse gases from the proposed project represents a small fraction of the region's overall GHG emissions, and an even smaller fraction of State, national, and global GHG emissions. As discussed in Chapter 18.0: Cumulative Effects, the demand for oil in the San Francisco Bay Area (Bay Area) would not change if the project is constructed. Conversely, the demand for oil would also not change if the project is not constructed, as the additional oil would presumably be delivered to other existing marine, rail, and storage terminals. The potential GHG emissions from tanker vessels and locomotives delivering this oil would be a function of the amount of oil delivered and the number of trips required. Given that climate change from GHG emissions is considered a global challenge, the location at which tanker vessels or locomotives call in the Bay Area does not change the impact of their resultant emissions.

For a more detailed discussion of the proposed project's operational emissions, refer to Chapter 5.0: Greenhouse Gas Emissions.

### 21.2.4 Construction and Operational Effects on Aquatic Resources

As discussed in Chapter 6.0: Aquatic Resources, adverse impacts to special-status species may result from dredging and pile driving. Dredging would alter Essential Fish Habitat and the project could adversely impact the San Francisco Bay Estuary, a designated Habitat Area of Particular Concern. Noise from dredging and pile driving can be expected to temporarily disrupt migratory corridors for fish species and cause injury and mortality during times of the year when sensitive fish species are expected to be in the area. Increased shipping could introduce or increase the spread of aquatic invasive species, and major spills of fuel, crude oil, or other hazardous materials can be expected to have serious adverse effects on aquatic species and habitat (refer to Impacts AR-1, AR-2, AR-3, AR-5, AR-9, AR-13, AR-18, and AR-20). There is no point during the marine terminal construction period between July and April in which all special-status fish species are expected to be absent from the Lower Estuarine River and, therefore, construction activities have the potential to cause significant impacts to special-status species. Migration of special-status salmonid species could be temporarily halted or redirected during pile driving that effectively creates a noise barrier in the channel. To the extent that impact hammers are used to set piles instead of vibratory hammers, the noise would significantly impact special-status fish species that are in the area or migrating through, depending on the time of the

work. Hull biofouling and ballast water exchange from ships that come to call at the marine terminal could lead to the introduction or spread of invasive aquatic species. Impacts from spills would depend on the material and quantity spilled. Spilled oils have severe impacts on waterfowl and marine mammals, and their cleanup is usually difficult and long term. The heaviest oils may sink in the water, contaminating the water column and the substrate. Conclusions are based on the relative sensitivity of the resource to oil, the vulnerability of the resource, and the relative risk of a spill at the Terminal or from a tanker servicing the Terminal.

Several levels of mitigation exist for significant impacts on aquatic resources. Avoidance of resources can effectively eliminate or minimize impacts, and to the extent possible, in-water work would be scheduled for the time of year that most effectively avoids impacts to special-status fish species. Other impacts would be minimized, for example, by implementing sound-attenuation measures during pile driving. Vessels that call at the WesPac marine terminal would be required to show that they have complied with the California Marine Invasive Species Act. The levels of mitigation for hazardous material spills are: (1) prevention, (2) containment, (3) avoidance of sensitive resources, (4) cleanup and rehabilitation of oiled areas, and (5) restoration and compensation for damaged resources and habitat. Prevention of spills would eliminate all oil spill impacts to biological resources. Containment and avoidance of sensitive areas might reduce impacts to less than significant if the spill does not occur in the immediate vicinity of sensitive resources. If spills cannot be contained and sensitive areas cannot be avoided, the residual impact would be significant. Cleanup, rehabilitation, restoration, and compensation could reduce the impacts, but not necessarily to a less-than-significant level.

For a more detailed discussion of the impacts associated with aquatic resources, refer to Chapter 6.0: Aquatic Resources.

### 21.2.5 Spill Effects on Terrestrial Resources

As discussed in Chapter 7.0: Terrestrial Resources, major spills of fuel, crude oil, or other hazardous materials have the potential to cause injury or harm to plants, wildlife, and sensitive habitats (refer to Impact TR-10). Change can result either directly or indirectly from exposure to a discharge of oil, exposure to a product, or from reactions resulting from a discharge of oil. A potential crude oil release on shore or at the shoreline would pose a risk to special-status species and sensitive habitats. The likelihood of an onshore pipeline release and the reasonable worst-case spill volumes are evaluated and discussed in Chapter 10.0: Hazards and Hazardous Materials. As concluded in Chapter 10.0, it is unlikely that a pipeline release would occur along pipelines included in the proposed project; however, while unlikely, if there was a rupture or leak, the impacts to special-status species and sensitive habitats could be significant and unavoidable, even with the implementation of a Spill Prevention, Control, and Countermeasure Plan.

For a more detailed discussion of the impacts associated with terrestrial resources, refer to Chapter 7.0: Terrestrial Resources.

### 21.2.6 Spill Effects on Public Utilities

As discussed in Chapter 11.0: Public Services and Utilities, in the event of an accidental oil spill that is not immediately contained, oil may reach local water supply intake facilities (refer to Impact PSU-14). Local water providers would be temporarily unable to operate the water intakes, thereby losing a source of water for a period of time. This could affect water supply to the region, particularly during drought years. Even with the implementation of contingency planning and response measures for oil spills, if a spill is not detected immediately, or if a moderate- or large-size spill occurred at or near the Terminal and was not quickly contained, then the spill could spread over a large area and impact water intakes. In such a case, impacts to water providers, albeit temporary, would be significant and unavoidable.

For a more detailed discussion of the impacts of spills on water service providers, refer to Chapter 11.0: Public Services and Utilities.

### 21.2.7 Spill Effects on Shoreline and Recreation Amenities

As discussed in Chapter 12.0: Land Use and Recreation, impacts resulting from larger oil releases at the Terminal, in the San Francisco Bay, or along the outer coast have the potential to degrade the environment and preclude the use of shoreline land and/or recreational activity at the site of the release and to the areal extent of the spread of the oiling (refer to Impact LUR-8). Significant land use and recreational impacts could result if first-response efforts would not contain or clean up an accidental oil spill, resulting in residual impacts that would affect the general public's use of shoreline or water areas. Recreational activities would be prohibited until cleanup or dissipation. Depending on the location of the spill, recreational activities impacted could include sport fishing, swimming, surfing, boating, and beach activities. The degree of impact, however, is influenced by many factors, including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability. Again, since it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be adverse and significant if severe spills have residual effects that remain after first-response cleanup occurs.

For a more detailed discussion of the impacts of spills on land use and recreation amenities, refer to Chapter 12.0: Land Use and Recreation.

### 21.2.8 Spill Effects on Water Resources

The severity of the impact from larger leaks or spills at the marine terminal and proposed pipelines that cannot be easily contained would depend on: (1) spill size, (2) oil composition, (3) spill characteristics (instantaneous vs. prolonged discharge), (4) the effect of environmental conditions on spill properties due to weathering, and (5) the effectiveness of cleanup operations. As discussed in Chapter 17.0: Water Resources, if released into the subsurface environment, crude oil could infiltrate the soil column and come in contact with groundwater, where it would accumulate and float on the surface of the water (refer to Impact WR-10). A subsurface pipeline release of crude oil could migrate upward through preferential soil pathways and appear at the surface, where it would pool and eventually flow down gradient in the direction of drainage channels and Suisun Bay. In such a case, crude oil present in bay waters would likely exceed the Basin Plan water quality objective for oil and grease; therefore, the project would be considered to have a significant and unavoidable impact under CEQA.

In addition, large spills at the marine terminal have the potential to result in significant adverse impacts on water quality (refer to Impact WR-12). In the event of an oil spill at the marine terminal, the initial impacts would be to the quality of surface waters and the water column, followed by potential impacts to sedimentary and shoreline environments. Also, most tanker spills/accidents and larger spills that cannot be quickly contained either in the San Francisco Bay or along the outer coast would result in significant adverse impacts. Oil spill trajectory modeling figures are provided in Appendix O.

For a more detailed discussion of the impacts to water quality associated with potential large spills at the marine terminal, refer to Chapter 17.0: Water Resources.

### 21.2.9 Risk of Hazardous Accident or Upset with Petroleum Product Release

It is unavoidable that the project would store and transport large volumes of petroleum products resulting in the potential for a spill that could pose a significant risk to human health and the environment. The severity of the risk would depend on: (1) spill size and location, (2) oil composition, (3) spill characteristics (e.g., instantaneous vs. prolonged discharge), (4) the effect of environmental conditions on spill properties due to weathering, and (5) the effectiveness of cleanup operations and measures to isolate the public from unhealthy exposure. As discussed in Chapter 10.0: Hazards and Hazardous Materials, an accidental release from a project pipeline, storage tank, or rail car could pose a significant threat to the public due to the potential for direct exposure to released materials, exposure to volatile emissions from released materials, or exposure to thermal radiation in the event of a release accompanied by fire. As described in Chapter 10.0, hazardous materials releases with potentially significant consequences are unlikely to occur during the project, but could occur

under reasonably foreseeable accident or upset conditions (refer to Impacts HM-4 and HM-5).

For a more detailed discussion on risk of accident or upset resulting from a large petroleum product release, refer to Chapter 10.0: Hazards and Hazardous Materials.

## 21.3 SIGNIFICANT IRREVERSIBLE CHANGES THAT WOULD BE CAUSED BY THE PROJECT

As per CEQA (Section 15126[c]), this section presents the irreversible changes related to the use of, or long-term commitment of, nonrenewable resources. Irreversible changes represent long-term environmental damages that could result from the proposed project.

Of the impacts presented in Section 21.2, even the long-term impacts of oil spills are considered reversible. However, if a large spill would cause enough physical damage so as to result in, for example, the elimination of a species, an irreversible impact would result. Impacts to GHG emissions, as described in Section 21.2.3, would be considered an irreversible impact.

Terminal operation would indirectly act as a stimulus for the extraction of oil reserves, adding to the eventual depletion of a non-renewable resource. However, the primary stimulus is demand, which would remain the same for any of the alternatives, including the No Project Alternative.

## 21.4 REFERENCES

Aspen Environmental Group. 1992. *Gaviota Terminal Company Gaviota Marine Terminal Project Final Supplemental Environmental Impact Report / Statement*. August 3, 1992.