5.0 Comparison and Analysis of Alternatives

This section compares the environmental advantages and disadvantages of the alternatives to the Mesa 500-kilovolt (kV) Substation Project (Mesa Substation Project, or proposed project), while disclosing what the impacts of each alternative would be if implemented. The comparison is based on an assessment of the proposed project's impacts (identified in Chapter 4, "Environmental Analysis" and Chapter 6, "Cumulative Impacts and Other CEQA Requirements"). Chapter 3, "Description of Alternatives," describes the alternatives considered in this Environmental Impact Report (EIR) and also documents all alternatives considered in the alternatives screening process.

Impacts of each alternative (other than the No Project Alternative) are characterized in terms of how the impacts would be similar to and different from the impacts of the proposed project. All three alternatives would be located on the same site as the proposed project and would therefore result in many of the same impacts as the proposed project. However, the smaller sizes and different configurations of each alternative would result in some different impacts than the proposed project. The analysis in this chapter therefore focuses on how the impacts of the alternatives would be different from the impacts of the proposed project, while concluding that the remainder of the impacts of alternatives would be the same as the impacts of the proposed project.

This section is organized as follows:

- Section 5.1, "CEQA Requirements for Alternatives Comparison," describes the California Environmental Quality Act (CEQA) requirements for alternatives comparison.
- Section 5.2, "Comparison Methodology," describes the methodology used in this EIR to compare alternatives.
- Section 5.3, "Comparison of Alternatives," presents the comparative analysis of alternatives.
- Section 5.4, "Environmentally Superior Alternative," defines the Environmentally Superior Alternative, per the comparison of alternatives analysis.
- Section 5.5, "No Project Alternative Comparison," compares the proposed project to the No Project Alternative.

The California Public Utilities Commission has identified the Environmentally Superior Alternative, which is required by CEQA Guidelines Section 15126.6(e)(2). As further discussed in Section 5.4, "Environmentally Superior Alternative," the Environmentally Superior Alternative would be the One-Transformer Bank (1600 megavolt ampere [MVA]) Substation Alternative.

The No Project Alternative includes transmission system options as well as Remedial Action Schemes (RAS) that are likely to be pursued in the absence of the proposed project. The No Project Alternative would likely have more severe environmental impacts than the proposed project and alternatives considered, as described in Section 5.5, "No Project Alternative Comparison."

5.1 CEQA Requirements for Alternatives Comparison

As stated in CEQA Guidelines Section 15126.6(d), CEQA requires the following for a comparison of alternatives in an EIR:

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

Furthermore, CEQA requires that if the No Project Alternative is the Environmentally Superior Alternative, the EIR must identify an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines § 15126.6(e)(2)).

5.2 Comparison Methodology

The methodology used to compare alternatives in this EIR includes the following steps:

- **Step 1: Identification of Alternatives and Potential Environmental Effects.** Nine alternatives to the proposed project were screened to determine their suitability for evaluation in the EIR (as described in Chapter 3, "Description of Alternatives"). Three of these alternatives were carried forward for analysis in this EIR, in addition to the No Project Alternative. This range of alternatives is sufficient to foster informed decision-making and public participation. The alternatives screening process did not identify any other potentially feasible alternatives that would meet most of the basic project objectives and avoid or substantially reduce significant impacts of the proposed project.
- **Step 2: Evaluation of Environmental Impacts.** Chapter 4, "Environmental Analysis," identifies the environmental impacts of the proposed project. Environmental impacts of alternatives are identified in Section 5.3, "Comparison of Alternatives." The proposed projects' significant impacts—including impacts that are significant and unavoidable, as well as impacts that are significant and mitigable to less than significant—are also identified in Section 5.3.
- **Step 3: Comparison of the Proposed Project and Alternatives.** The environmental impacts of the proposed project are compared to those of each alternative in Section 5.3, "Comparison of Alternatives," to determine an Environmentally Superior Alternative, which is described in Section 5.4, "Environmentally Superior Alternative." Alternatives would in certain areas result in the same impacts as the proposed projects; thus, the comparison of each alternative begins with the definition of the ways the alternative would differ to focus the comparative analysis on how the alternatives would reduce or substantially avoid a significant impact of the proposed projects. The proposed project was then compared to the No Project Alternative in Section 5.5, "No Project Alternative Comparison."

Selection of the Environmentally Superior Alternative requires balancing many environmental factors. Impacts in each resource area were identified and compared in detailed comparison tables in Section 5.4 in order to identify the Environmentally Superior Alternative. The tables present a ranking of environmental superiority and a brief explanation for the ranking in each environmental

resource area. Comparisons in this section emphasize situations in which an alternative would create impacts in one area as a result of avoiding or reducing impacts in another area. Because no alternative was superior across all resource sections, other factors were ultimately taken into account to select the Environmentally Superior Alternative. Section 5.4, "Environmentally Superior Alternative," discusses the results of the ranking and what other aspects were taken into account in identifying the Environmentally Superior Alternative.

This EIR identifies an Environmentally Superior Alternative, but it is possible that the California Public Utilities Commission's decision makers may balance the importance of each impact differently and reach different conclusions.

5.3 Comparison of Alternatives

5.3.1 Introduction

This section summarizes significant and unavoidable impacts of the proposed project, the advantages and disadvantages of each alternative, and a determination of whether the proposed project or the alternative would be environmentally superior within each resource area. The preferred alternative is identified for each resource area. An alternative shown in a summary table as preferred still may have environmental effects, but the environmental effects of the preferred alternative would be minimized compared to other alternatives and the proposed project.

Alternatives to the proposed project are described in more detail in Chapter 3, "Description of Alternatives." Table 5.3-1 briefly summarizes the characteristics of each alternative and how they differ from the proposed project.

Table 5.3-1 Summary of Alternatives Analyzed

Alternative Name	Description	Differences with Proposed Project
One-Transformer Bank (1600 MVA) Substation Alternative	• Project built as proposed, but using one 1600-MVA 500/220-kV transformer bank instead of three 1120-MVA 500/220-kV transformer banks with space for a spare transformer bank	• No 1120-MVA 500/220-kV transformer banks • One 1600-MVA 500/220-kV transformer bank • Smaller 500-kV switchrack • Requires RAS • Substation footprint reduced by 11.6 acres (see Figure 5-1)
Two-Transformer Bank (1120 MVA) Transformer Alternative	• Project built as proposed, but using two 1120-MVA 500/220-kV transformer banks instead of three 1120-MVA 500/220-kV transformer banks with space for a spare transformer bank	• One fewer 1120-MVA 500/220-kV transformer bank • Smaller 500-kV switchrack • Requires RAS • Substation footprint reduced by 8.3 acres (see Figure 5-1)
Gas-Insulated Substation Alternative	• Project built as proposed, but using gas-insulated switchgear instead of air insulated switchgear	• Smaller switchracks for all voltages (500 kV, 220 kV, 66 kV, and 16 kV) • Substation footprint reduced by 7.3 acres (see Figure 5-1)

Key:
MVA megavolt amperes
kV kilovolt
RAS Remedial Action Scheme

The proposed project would result in five significant and unavoidable impacts in the resource areas of aesthetics, air quality, and noise. Significant, unavoidable impacts are listed in Table 5.3-2. The proposed project would also result in significant impacts that could be mitigated to a less than significant level and less than significant impacts in the remaining resource areas.

Table 5.3-2 Significant and Unavoidable Impacts of the Proposed Project

Resource	Significant and Unavoidable Impact
Aesthetics	**Impact AE-1:** Substantially degrade the existing visual character or quality of the site and its surroundings.
Air Quality	**Impact AQ-2:** Violate any air quality standard or contribute substantially to an existing or projected air quality violation **Impact AQ-4:** Expose sensitive receptors to substantial pollutant concentrations
Noise	**Impact NV-1:** Result in noise levels in excess of standards established in the local general plan or noise ordinance **Impact NV-4:** Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity.

5.3.2 Comparison of Alternatives

Table 5.3-3 summarizes the comparison of alternatives analysis and determinations. It also provides a ranking of the alternatives within the environmental resource area, from environmentally superior (1) to least environmentally superior (3). A ranking is not provided when the impacts of each alternative would be comparable.

5.3.2.1 One-Transformer-Bank (1600 MVA) Substation Alternative

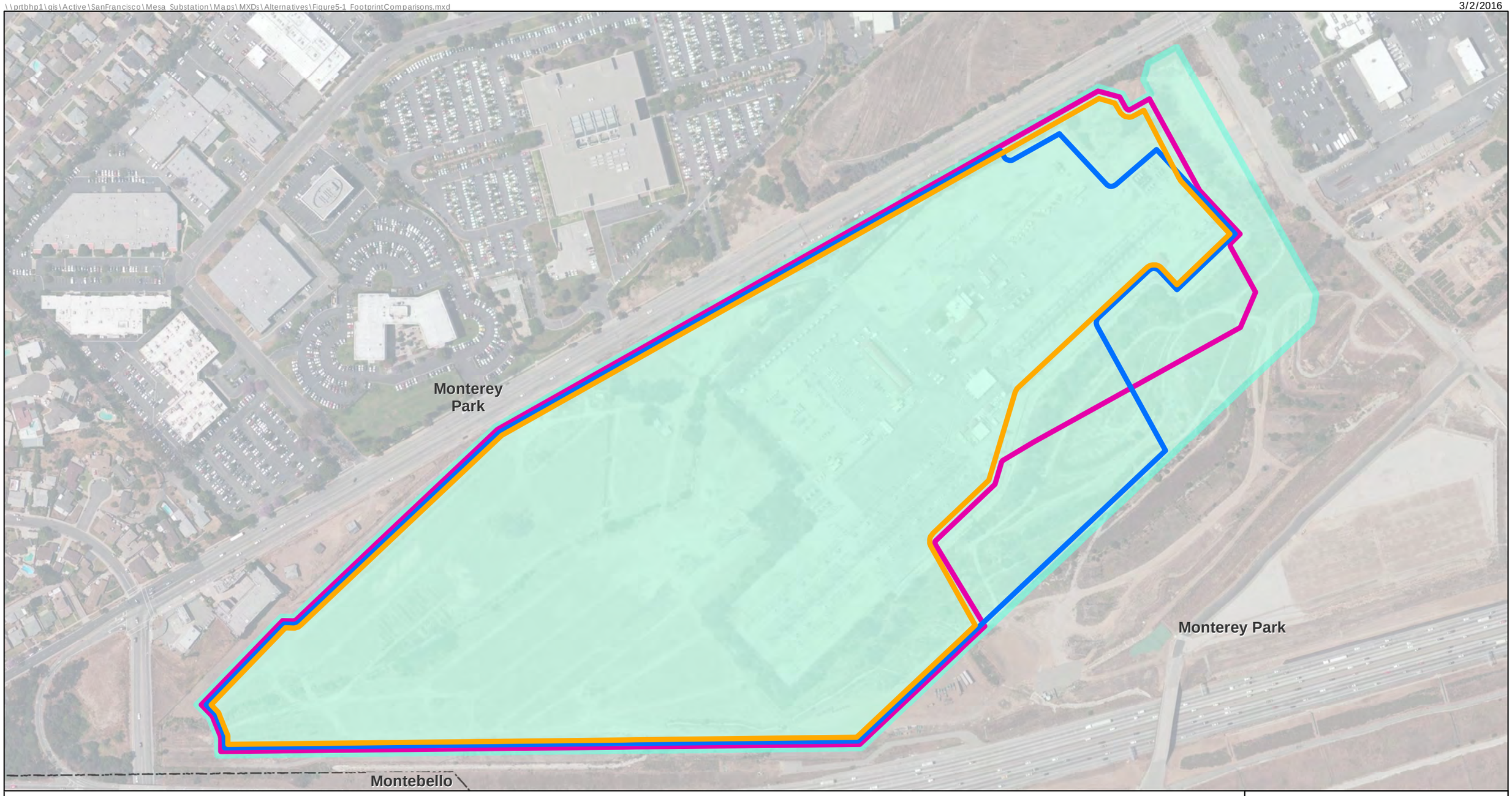
Aesthetics

Construction of the One-Transformer-Bank Substation Alternative would result in reduced aesthetic impacts. The 500-kV switchrack would be about half the size of the switchrack for the proposed projects, which would result in fewer structures at the substation visible from viewpoints on Potrero Grande Drive. However, the transformer bank and 500-kV switchrack would be located adjacent to Potrero Grande Drive, closer to viewers, meaning that the new substation structures would still be visually dominant. The reduction in visual impacts (Impact AE-1) would be slight compared to the proposed project's visual impacts.

All other visual impacts of the One-Transformer-Bank Substation Alternative would be the same as those associated with the proposed project.

Air Quality

Construction of the One-Transformer-Bank Substation Alternative would result in total reduced air quality impacts over the construction period, though the maximum daily emissions during construction would remain the same as for the proposed project. The reduced substation size would result in a shorter construction period and less ground disturbance, but it is assumed that daily construction activities would not change in intensity. Thus, daily criteria pollutant emissions would be about the same under the One-Transformer-Bank Substation Alternative compared to the proposed project. However, the reduced construction period at the substation would result in an overall substantial decrease in total exhaust emissions (Impact AQ-2 and Impact AQ-3). The reduced disturbance area (about 11.6 acres less than the proposed project) would substantially reduce fugitive dust emissions from ground disturbance (Impact AQ-2 and Impact AQ-3).



Rough Schematics of Alternative Footprints
- One 1600-MVA Transformer
- GIS Alternative Footprint
- Two 1120-MVA Transformer
- SCE Proposed Project Substation Boundary

Sources: SCE 2015
Basemap: NAIP 2014

0 500 1,000
Feet

Figure 5-1
Comparison of Alternative Footprints
Main Project Area -
Mesa Substation Site
Los Angeles County, CA

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Table 5.3-3 Summary of the Alternatives Analyses and Determinations

Resource Area	Proposed Project (Determinations for Impacts Reduced by Alternatives)	One-Transformer-Bank (1600 MVA) Substation (Rank[1])	Two-Transformer-Bank (1120 MVA) Substation (Rank[1])	Gas-Insulated Substation (Rank[1])	Environmentally Superior Alternative[2]
Aesthetics	• **Impact AE-1** (significant and unavoidable)	Less (2)	Less (3)	Less (1)	Gas-Insulated Substation
Air Quality	• **Impact AQ-2** (significant and unavoidable) • **Impact AQ-3** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Biological Resources	• **Impact BR-1** (less than significant with mitigation) • **Impact BR-2** (less than significant with mitigation • **Impact BR-3** (less than significant with mitigation) • **Impact BR-4** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Cultural Resources	• **Impact CR-2** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Geology, Soils, and Mineral Resources	• **Impact GEO-5** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Greenhouse Gas Emissions	• **Impact GHG-1** (less than significant)	Less (1)	Less (2)	Greater (3)	One-Transformer-Bank Substation

Table 5.3-3 Summary of the Alternatives Analyses and Determinations

Resource Area	Proposed Project (Determinations for Impacts Reduced by Alternatives)	One-Transformer-Bank (1600 MVA) Substation (Rank[1])	Two-Transformer-Bank (1120 MVA) Substation (Rank[1])	Gas-Insulated Substation (Rank[1])	Environmentally Superior Alternative[2]
Hazards and Hazardous Materials	• **Impact HZ-1** (less than significant with mitigation) • **Impact HZ-2** (less than significant with mitigation) • **Impact HZ-4** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Hydrology and Water Quality	• **Impact HY-1** (less than significant with mitigation) • **Impact HY-2** (less than significant) • **Impact HY-3** (less than significant with mitigation) • **Impact HY-4** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Land Use and Planning	• N/A—No Impact	Similar (N/A)	Similar (N/A)	Similar (N/A)	Equal[3, 4]
Noise	• **Impact NV-4** (significant and unavoidable)	Less (2)	Less (2)	Less (1)	Gas-Insulated Substation
Population and Housing	• N/A—No Impact	Less (N/A)	Less (N/A)	Less (N/A)	Equally superior[3, 5]
Public Services and Utilities	• **Impact PSU-5** (less than significant)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation
Recreation	• N/A—No Impact	Similar (N/A)	Similar (N/A)	Similar (N/A)	Equal[3, 4]

Table 5.3-3 Summary of the Alternatives Analyses and Determinations

Resource Area	Proposed Project (Determinations for Impacts Reduced by Alternatives)	One-Transformer-Bank (1600 MVA) Substation (Rank[1])	Two-Transformer-Bank (1120 MVA) Substation (Rank[1])	Gas-Insulated Substation (Rank[1])	Environmentally Superior Alternative[2]
Transportation and Traffic	• **Impact TT-1** (less than significant with mitigation • **Impact TT-2** (less than significant with mitigation)	Less (1)	Less (2)	Less (3)	One-Transformer-Bank Substation

Notes:
[1] A rank is not provided if the alternatives would result in indistinguishable environmental impacts.
[2] If the Environmentally Superior Alternative is the No Project Alternative, CEQA requires the identification of an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6).
[3] All three alternatives have approximately the same environmental impact such that none are superior to the other considered alternatives but are superior to the proposed project.
[4] All three alternatives have similar impacts to the proposed project, such that no alternatives would reduce an environmental impact of the proposed project.
[5] All three alternatives considered are environmentally superior to the proposed project.
Key:
MVA megavolt amperes
N/A not applicable

1

All other air quality impacts under the One-Transformer-Bank Substation Alternative would be the same as those associated with the proposed project.

Biological Resources

Construction of the One-Transformer-Bank Substation Alternative would result in reduced impacts on biological resources compared to the proposed project. California coastal gnatcatcher, least Bell's vireo, loggerhead shrike, peregrine falcon, Swainson's hawk, and yellow warbler have been sighted in the areas southeast and east of the current substation; California coastal gnatcatcher is known to nest in the area southeast of the current substation. Under the One-Transformer-Bank Substation Alternative, about 11.6 acres of habitat would be avoided compared to the proposed projects. This habitat is also the higher-value habitat on the substation site because special-status bird species (including nesting California coastal gnatcatcher) are known to occur within this habitat. Furthermore, the six black walnut trees that would be removed as part of the proposed project could be retained under this alternative. Impacts to avian and special-status species and habitat (Impact BR-1 and Impact BR-4) would be substantially reduced under the One-Transformer-Bank Substation Alternative compared to those associated with the proposed project.

This alternative would also result in reduced impacts on riparian habitat. The mulefat scrub located southeast of the current substation site would be avoided under this alternative. This alternative would result in an approximately 27 percent (about 1 acre) reduction of impacts on potentially jurisdictional water compared to the proposed projects. The One-Transformer-Bank Substation Alternative would substantially reduce impacts on riparian habitat and potentially jurisdictional waters (Impact BR-2 and Impact BR-3) at the substation site.

All other impacts related to biological resources under this alternative would be the same as those associated with the proposed project.

Cultural Resources

The potential for discovery of a cultural resource during construction of the One-Transformer-Bank Substation Alternative would potentially be lower than for the proposed project due to reduced ground disturbance. Under this alternative, 11.6 fewer acres of land would be disturbed compared to the proposed projects. The potential for encountering a previously undiscovered resource on the site is already low. Thus, there is a negligibly lower chance of uncovering a cultural resource (Impact CR-2) with implementation of the One-Transformer-Bank Substation Alternative compared to the proposed project.

All other impacts related to cultural resources under this alternative would be the same as those associated with the proposed project.

Geology, Soils, and Mineral Resources

The potential for erosion and loss of topsoil during construction of the One-Transformer-Bank Substation Alternative would be lower than for the proposed project due to reduced ground disturbance. Under this alternative, 11.6 fewer acres of land would be disturbed compared to the proposed projects. The reduced grading and ground disturbance would therefore slightly reduce erosion (Impact GEO-5) compared to the proposed project.

All other impacts related to geology and soils under this alternative would be the same as those associated with the proposed projects.

Greenhouse Gas Emissions

Overall greenhouse gas emissions from construction of the One-Transformer-Bank Substation Alternative would be reduced compared to the proposed project. The smaller substation footprint would translate into less grading and therefore less heavy equipment use and fewer truck trips to import and export soil, resulting in slightly reduced greenhouse gas emissions (Impact GHG-1) during construction.

All other construction impacts related to greenhouse gases under this alternative would be the same as those associated with the proposed project. Operations-related greenhouse gas emissions under this alternative would be the same as under the proposed project, since operations and maintenance activities would be about the same as under the proposed project.

Hazards and Hazardous Materials

Overall risk of hazards would be reduced under the One-Transformer-Bank Substation Alternative compared to the proposed projects. Under this alternative, the substation footprint would be 11.6 acres smaller than under the proposed projects. The alternative would involve less ground disturbance, which means that slightly fewer hazardous materials overall would be used, transported, and disposed of; there would be slightly less chance of an accident (Impact HZ-1); and there would be slightly reduced potential for encountering contaminated soils (Impact HZ-2 and Impact HZ-4). Under this alternative, two groundwater wells slated to be decommissioned under the proposed project (wells OI-07C and OI-07B) would be retained; therefore, the potential for contamination of groundwater or soils via improper well abandonment (Impact HZ-2) would be slightly reduced under the One-Transformer-Bank Substation Alternative.

During operations, there would be only one transformer bank on site. The proposed project would result in an increase of 166,000 gallons of transformer oil being used on site for the 500-kV portion of the new substation. With only one 1600-MVA transformer, about one-third of the transformer oil (about 55,000 gallons) would be needed under this alternative than under the proposed project. Thus, there would be less oil stored on site under the One-Transformer-Bank Substation Alternative than under the proposed project, substantially reducing associated potential hazards (Impact HZ-1).

All other impacts related to hazards and hazardous materials under this alternative would be the same as those associated with the proposed projects

Hydrology and Water Quality

Overall risk of water pollution would be slightly reduced under the One-Transformer-Bank Substation Alternative compared to the proposed project. The alternative would involve 11.6 acres less ground disturbance compared to the proposed project and would reduce impacts on the drainages southeast and east of the existing substation site. This alternative would result in an approximately 27 percent reduction of impacts on potentially jurisdictional water compared to the proposed project. This reduced disturbance area would result in a slightly reduced potential for sedimentation and hazardous materials spills that could adversely affect water quality (Impact HY-1 and Impact HY-3), and impacts on drainage patterns, including ponding both on and off site (Impact HY-4).

The smaller disturbance area associated with the One-Transformer-Bank Substation Alternative would require less water for dust control during construction than the proposed project. This alternative would reduce ground disturbance by about 17 percent, which may also reduce water use for dust control at the substation site by 17 percent. The applicant would obtain water from Monterey Park Department of Public Works Water Utility Division, which sources water from groundwater. Thus, slightly less groundwater would be used (Impact HY-2) under the One-Transformer-Bank Substation Alternative than under the proposed project.

All other impacts related to hydrology and water quality under this alternative would be the same as those associated with the proposed project.

Land Use and Planning

The proposed project would have no impact on land use and planning. Because this alternative would involve a reduced substation in the same location, it would have no impact on land use and planning.

Noise

Noise from the proposed project may be reduced under the One-Transformer-Bank Substation Alternative because less construction would take place close to sensitive receptors on Holly Oak Drive. The One-Transformer-Bank Substation Alternative would increase the distance of the substation construction activities to the nearest sensitive receptors on Holly Oak Drive by approximately 170 feet. Thus, noise impacts at these receptors would be reduced by about 2 A-weighted decibels (dBA). Reduction in noise by 2 dBA would not result in a perceptible difference in noise levels. Construction of the One-Transformer-Bank Substation Alternative would negligibly reduce noise impacts (Impact NV-4) compared to the impacts of the proposed project.

All other impacts related to noise under this alternative would be the same as those associated with the proposed project.

Population and Housing

It is presumed that the same maximum number of employees would be needed during construction under this alternative as under the proposed project. The duration of need for workers would, however, be shorter than under the proposed project. This could result in a negligible reduction of the potential for temporary population growth in the area, compared to the proposed project, should construction workers relocate to the area. The impacts of this alternative and the proposed project would be substantially the same.

All other impacts related to population and housing would be the same as those associated with the proposed project.

Public Services and Utilities

The One-Transformer-Bank Substation Alternative would have a negligibly reduced potential for need for public services due to hazardous materials spills, fire, theft, and vandalism, as well as lower production of wastewater and stormwater as a function of the shorter construction period at the substation site and the reduced construction activity and substation footprint compared to the proposed project. Impacts would be substantially the same as the proposed project.

The smaller disturbance area associated with the One-Transformer-Bank Substation Alternative would require less water for dust control during construction than the proposed project. This alternative would reduce ground disturbance by about 17 percent, which may also reduce water use for dust control (Impact PSU-5) at the substation by 17 percent.

All other impacts related to public services and utilities would be the same as those associated with the proposed project.

Recreation

It is presumed that the same maximum number of employees would be needed during construction of this alternative as for the proposed project. The duration of need for workers would, however, be slightly shorter than for the proposed project, resulting in a small potential decrease in the time that workers may need to relocate to the area. Thus, any increased use in recreational facilities due to temporary relocation of construction workers to the area could be negligibly reduced under the One-Transformer-Bank Substation Alternative compared to the proposed project. The impacts of this alternative and the proposed project would be substantially the same.

All other impacts related to recreation under this alternative would be the same as those associated with the proposed project.

Traffic and Transportation

Construction of the One-Transformer-Bank Substation Alternative would result in reduced total vehicle trips, though the maximum daily vehicle trips would most likely remain the same as under the proposed project. The reduced substation size would result in a shorter construction period and less grading, resulting in fewer soil import and export trips, but it is assumed that daily construction activities would not change in intensity. Thus, daily vehicle trips would be about the same under this alternative compared to the proposed project. However, the reduced construction period at the substation under the One-Transformer-Bank Substation Alternative would result in a net overall substantial decrease in traffic and transportation impacts (Impact TT-1 and Impact TT-2).

All other impacts related to traffic and transportation under this alternative would be the same as those associated with the proposed project.

5.3.2.2 Two-Transformer-Bank (1120 MVA) Substation Alternative

Aesthetics

Construction of the Two-Transformer-Bank Substation Alternative would result in reduced aesthetic impacts compared to the proposed project. The 500-kV switchrack would be a little more than half the size of the switchrack for the proposed project, which would result in fewer structures at the substation visible from viewpoints on Potrero Grande Drive. However, the transformer banks and 500-kV switchrack would be located adjacent to Potrero Grande Drive, closer to viewers, meaning that the new substation structures would still be visually dominant. The reduction in visual impacts (Impact AE-1) would be slight compared to the proposed project's visual impacts.

All other visual impacts of the Two-Transformer-Bank Substation Alternative would be the same as those associated with the proposed project.

Air Quality

Construction of the Two-Transformer-Bank Substation Alternative would result in total reduced air quality impacts over the construction period, though the maximum daily emissions during construction would remain the same as under the proposed project. The reduced substation size would result in a shorter construction period and less ground disturbance, but it is assumed that daily construction activities would not change in intensity. Thus, daily criteria pollutant emissions would be about the same under the Two-Transformer-Bank Substation Alternative compared to the proposed project. However, the reduced construction period at the substation would result in a net overall substantial decrease in total exhaust emissions (Impact AQ-2 and Impact AQ-3). The reduced disturbance area (about 8.3 acres less than the proposed project) would substantially reduce fugitive dust emissions from ground disturbance (Impact AQ-2 and Impact AQ-3).

All other air quality impacts under the Two-Transformer-Bank Substation Alternative would be the same as those associated with the proposed project.

Biological Resources

Construction of the Two-Transformer-Bank Substation Alternative would result in reduced impacts on biological resources compared to the proposed project. California coastal gnatcatcher, least Bell's vireo, loggerhead shrike, peregrine falcon, Swainson's hawk, and yellow warbler have been sighted in the areas southeast and east of the current substation; California coastal gnatcatcher is known to nest in the area southeast of the current substation. Under the Two-Transformer-Bank Substation Alternative, about 8.3 acres of habitat would be avoided compared to the proposed project. This habitat is higher-value habitat on the substation site because special-status bird species (including nesting California coastal gnatcatcher) are known to occur within this habitat. Furthermore, the six black walnut trees that would be removed as part of the proposed project could be retained under this alternative. Impacts on avian and special-status species and habitat (Impact BR-1 and Impact BR-4) would be substantially reduced under the Two-Transformer-Bank Substation Alternative compared to the proposed project.

The Two-Transformer-Bank Substation Alternative would also result in reduced impacts on riparian habitat. This alternative would reduce the impacts on the mulefat scrub located southeast of the current substation site. This alternative would result in a 14 percent (about 0.5-acre) reduction of impacts on potentially jurisdictional water compared to the proposed project. The Two-Transformer-Bank Substation Alternative would substantially reduce impacts on riparian habitat and potentially jurisdictional waters (Impact BR-2 and Impact BR-3) at the substation site.

All other impacts related to biological resources under this alternative would be the same as those associated with the proposed project.

Cultural Resources

The potential for discovery of a cultural resource during construction of the Two-Transformer-Bank Substation Alternative would potentially be lower than for the proposed project due to reduced ground disturbance. Under this alternative, 8.3 fewer acres of land would be disturbed compared to the proposed project. The potential for encountering a previously undiscovered resource on the site is already low. Thus, there is a negligibly lower chance of uncovering a cultural resource (Impact CR-2) with implementation of the Two-Transformer-Bank Substation Alternative compared to the proposed project.

All other impacts related to cultural resources under this alternative would be the same as those associated with the proposed project.

Geology, Soils, and Mineral Resources

The potential for erosion and loss of topsoil during construction of the Two-Transformer-Bank Substation Alternative would be lower than for the proposed project due to reduced ground disturbance. Under this alternative, 8.3 fewer acres of land would be disturbed compared to the proposed project. The reduced grading and ground disturbance would therefore slightly reduce erosion (Impact GEO-5) compared to the proposed project.

All other impacts related to geology and soils under this alternative would be the same as those associated with the proposed project.

Greenhouse Gas Emissions

Overall greenhouse gas emissions from construction of the Two-Transformer-Bank Substation Alternative would be reduced compared to the proposed project. The smaller substation footprint would translate into less grading and therefore less heavy equipment use and fewer truck trips to import and export soil, resulting in slightly reduced greenhouse gas emissions (Impact GHG-1) during construction.

All other construction impacts related to greenhouse gases under this alternative would be the same as those associated with the proposed project. Operations-related greenhouse gas emissions would be the same as under the proposed projects, since operations and maintenance activities would be about the same as those performed for the proposed project.

Hazards and Hazardous Materials

Overall risk of hazards would be reduced under the Two-Transformer-Bank Substation Alternative compared to the proposed project. Under this alternative, the substation footprint would be 8.3 acres smaller than that associated with the proposed project. The alternative would involve less ground disturbance, which means that slightly fewer hazardous materials overall would be used, transported, and disposed of; there would be slightly less of a chance of an accident (Impact HZ-1); and there would be slightly reduced potential for encountering contaminated soils (Impact HZ-2 and Impact HZ-4).

During operations, there would be only two transformer banks on site. The proposed project would result in an increase of 166,000 gallons of transformer oil being used on site for the 500-kV portion of the new substation. With only two 1120-MVA transformers, about two-thirds of the transformer oil (about 110,000 gallons) would be needed under this alternative than under the proposed project. Thus, there would be less oil stored on site under the Two-Transformer-Bank Substation Alternative than under the proposed project, substantially reducing associated potential hazards (Impact HZ-1).

All other impacts related to hazards and hazardous materials under this alternative would be the same as those associated with the proposed project.

Hydrology and Water Quality

Overall risk of water pollution would be slightly reduced under the Two-Transformer-Bank Substation Alternative compared to the proposed project. The alternative would involve 8.3 acres less ground disturbance compared to the proposed project and would reduce impacts on the drainages southeast and east of the existing substation site. This alternative would result in a reduction of about 14 percent in impacts on potentially jurisdictional waters compared to the proposed project. This reduced area would result in a slightly reduced potential for sedimentation and hazardous materials spills that could adversely affect water quality (Impact HY-1 and Impact HY-3) and drainage patterns, including ponding on and off site (Impact HY-4).

The smaller disturbance area associated with the Two-Transformer-Bank Substation Alternative would require less water for dust control during construction than the proposed project. This alternative would reduce ground disturbance by about 12 percent, which could also reduce water use for dust control at the substation site by 12 percent. The applicant would obtain water from Monterey Park Department of Public Works Water Utility Division, which sources water from groundwater. Thus, slightly less groundwater would be used (Impact HY-2) under the Two-Transformer-Bank Substation Alternative than under the proposed project.

All other impacts related to hydrology and water quality under this alternative would be the same as those associated with the proposed project.

Land Use and Planning

The proposed project would have no impact on land use and planning. Because this alternative would involve a reduced substation in the same location, it would also have no impact on land use and planning.

Noise

Noise from the proposed projects may be reduced under the Two-Transformer-Bank Substation Alternative because less construction would take place close to sensitive receptors on Holly Oak Drive. The Two-Transformer-Bank Substation Alternative would increase the distance of the substation construction activities to the nearest sensitive receptors on Holly Oak Drive by approximately 170 feet. Thus, noise impacts at these receptors would be reduced by about 2 dBA. Reduction in noise by 2 dBA would not result in a perceptible difference in noise levels. Construction of the Two-Transformer-Bank Substation Alternative would negligibly reduce noise impacts (Impact NV-4) compared to the impacts of the proposed project.

All other impacts related to noise under this alternative would be the same as those associated with the proposed project.

Population and Housing

It is presumed that the same maximum number of employees would be needed during construction of this alternative as the proposed project. The duration of need for workers would, however, be shorter than for the proposed project. This could result in a negligible reduction of the potential for temporary population growth in the area, compared to the proposed project, should construction workers relocate to the area. The impacts of this alternative and the proposed project would be substantially the same.

All other impacts related to population and housing would be the same as those associated with the proposed project.

Public Services and Utilities

The Two-Transformer-Bank Substation Alternative would have a negligibly reduced potential for need for public services due to hazardous materials spills, fire, theft, and vandalism, as well as lower production of wastewater and stormwater as a function of the shorter construction period at the substation site and the reduced construction activity and substation footprint compared to the proposed project.

The smaller disturbance area associated with the Two-Transformer-Bank Substation Alternative would require less water for dust control during construction than the proposed project. This alternative would reduce ground disturbance by about 12 percent, which may also reduce water use for dust control (Impact PSU-5) at the substation by 12 percent.

All other impacts related to public services and utilities would be the same as those associated with the proposed project.

Recreation

It is presumed that the same maximum number of employees would be needed during construction of this alternative as for the proposed project. The duration of need for workers would, however, be slightly shorter than for the proposed project, resulting in a small potential decrease in the time that workers may need to relocate to the area. Thus, any increased use in recreational facilities due to temporary relocation of construction workers to the area could be negligibly reduced under the Two-Transformer-Bank Substation Alternative compared to the proposed project. The impacts of this alternative and the proposed project would be substantially the same.

All other impacts related to recreation under this alternative would be the same as those associated with the proposed project.

Transportation and Traffic

Construction of the Two-Transformer-Bank Substation Alternative would result in total reduced vehicle trips, though the maximum daily vehicle trips would most likely remain the same as for the proposed project. The reduced substation size would result in a shorter construction period and less grading, resulting in fewer soil import and export trips, but it is assumed that daily construction activities would not change in intensity. Thus, daily vehicle trips would be about the same under this alternative compared to the proposed project. However, the reduced construction period at the substation under the Two-Transformer-Bank Substation Alternative would result in an overall substantial decrease in traffic impacts (Impact TT-1 and Impact TT-2).

All other impacts related to traffic and transportation under this alternative would be the same as those associated with the proposed project.

5.3.2.3 Gas-Insulated Substation Alternative

Aesthetics

Construction of the Gas-Insulated Substation Alternative would result in reduced aesthetic impacts. The 500-kV, 220-kV, 66-kV, and 12-kV switchracks would be about one-tenth the size of the switchracks for the proposed project, which would result in fewer structures at the substation visible from viewpoints on Potrero Grande Drive. Since the proposed projects' switchracks have tall structures that would result in visual impacts from skylining and visual dominance, reducing the size of the switchracks would substantially reduce visual impacts from the switchracks (Impact AE-1) compared to the proposed project.

All other impacts related to visual resources during construction and operation of the proposed project would be the same for this alternative.

Air Quality

Construction of the Gas-Insulated Substation Alternative would result in reduced total air quality impacts over the construction period, though the maximum daily emissions during construction would remain the same as for the proposed project. The reduced substation size would result in a shorter construction period and less ground disturbance, but it is assumed that daily construction activities would not change in intensity. Thus, daily criteria pollutant emissions would be about the same under the Gas-Insulated Substation Alternative as for the proposed project. However, the reduced construction period at the substation would result in a net overall substantial decrease in exhaust emissions (Impact AQ-2 and Impact AQ-3). The reduced disturbance area (about 7.3 acres less than the proposed project) would substantially reduce fugitive dust emissions from ground disturbance (Impact AQ-2 and Impact AQ-3).

All other impacts related to air quality under this alternative would be the same as those associated with the proposed project.

Biological Resources

Construction of the Gas-Insulated Substation Alternative would result in reduced impacts on biological resources compared to the proposed project. The reduced substation footprint would avoid biological resources that the proposed project would impact. California coastal gnatcatcher, least Bell's vireo, loggerhead shrike, peregrine falcon, Swainson's hawk, and yellow warbler have been sighted in the areas southeast and east of the current substation; California coastal gnatcatcher is known to nest in the area southeast of the current substation. Under the Gas-Insulated Substation Alternative, about 7.3 fewer acres of habitat would be avoided compared to the proposed project. This habitat is also part of the higher-value habitat on the substation site because many of special-status bird species (including nesting California coastal gnatcatcher) are known to occur within this habitat. Furthermore, three of the six black walnut trees on the substation site that would be removed as part of the proposed project could likely be retained under this alternative. Impacts to avian and special-status species and habitat (Impact BR-1 and Impact BR-4) would be substantially reduced under the Gas-Insulated Substation Alternative compared to the proposed project.

This alternative would also result in reduced impacts on riparian habitat. A portion of the mulefat scrub located southeast of the current substation site would be avoided under this alternative. This alternative would result in an approximately 24 percent (about 0.9 acre) reduction of impacts on potentially jurisdictional water compared to the proposed project. The Gas-Insulated Substation Alternative would substantially reduce impacts on riparian habitat and potentially jurisdictional waters (Impact BR-2 and Impact BR-3) at the substation site.

All other impacts related to biological resources under this alternative would be the same as those associated with the proposed project.

Cultural Resources

The potential for discovery of a cultural resource during construction of the Gas-Insulated Substation Alternative would potentially be lower under this alternative than under the proposed project due to reduced ground disturbance. Under this alternative, 7.3 fewer acres of land would be disturbed compared to the proposed project. The potential for encountering a previously undiscovered resource on the site is already low. Thus, there is a negligibly lower chance of uncovering a cultural resource (Impact CR-2) with implementation of the Gas-Insulated Substation Alternative compared to the proposed project.

All other impacts related to cultural resources under this alternative would be the same as those associated with the proposed project.

Geology, Soils, and Mineral Resources

The potential for erosion and loss of topsoil during construction of the Gas-Insulated Substation Alternative would be lower than for the proposed project due to reduced ground disturbance. Under this alternative, 7.3 fewer acres of land would be disturbed compared to the proposed project. The reduced grading and ground disturbance would therefore slightly reduce erosion (Impact GEO-5) compared to the proposed project.

All other impacts related to geology and soils under this alternative would be the same as those associated with the proposed project.

Greenhouse Gas Emissions

The Gas-Insulated Substation Alternative would reduce greenhouse gas emissions from construction compared to the proposed project. The smaller substation footprint would translate into less grading and therefore less heavy equipment use and fewer truck trips to import and export soil, resulting in slightly reduced greenhouse gas emissions (Impact GHG-1) during construction. All other construction impacts related to greenhouse gases under this alternative would be the same as those associated with the proposed project.

During operation, the Gas-Insulated Substation Alternative would result in increased greenhouse gas emissions (Impact GHG-1) compared to the proposed project. Gas-insulated substations use sulfur hexafluoride (SF_6), which is a greenhouse gas about 23,900 times more potent than carbon dioxide. A gas-insulated substation would emit fugitive SF_6 due to leaking during the normal course of substation operations; a typical leak rate for new gas-insulated substations is about 0.1 percent per year (Siemens 2013). A rough estimate of the increase in greenhouse gas emissions compared to the proposed projects would be 8,200 metric tons of carbon dioxide equivalency ($MTCO_2e$) per

year.[1] Added to the proposed projects' annual greenhouse gas emissions of 2,129 $MTCO_2e$ per year, total annual greenhouse gas emissions for this alternative would be 10,329 $MTCO_2e$ per year. It is therefore plausible that the Gas-Insulated Substation Alternative operational greenhouse gas emissions would exceed the South Coast Air Quality Management District (SCAQMD) greenhouse gas significance threshold of 10,000 $MTCO_2e$ per year.

Other operations-related greenhouse gas emissions would be the same as those associated with the proposed project.

Hazards and Hazardous Materials

Overall risk of hazards would be reduced under the Gas-Insulated Substation Alternative compared to the proposed project. Under this alternative, the substation footprint would be 7.3 acres smaller than that under the proposed project. This alternative would involve less ground disturbance, which means that slightly fewer hazardous materials overall would be used, transported, and disposed of; there would be slightly less chance of an accident (Impact HZ-1), and there would be a slightly reduced potential for encountering contaminated soils (Impact HZ-2 and Impact HZ-4). Under this alternative, two groundwater wells slated to be decommissioned under the proposed project (wells OI-07C and OI-07B) would be retained; therefore, the potential for contamination of groundwater or soils via improper well abandonment (Impact HZ-2) would be slightly reduced under the Gas-Insulated Substation Alternative.

All other impacts related to hazards and hazardous materials under this alternative would be the same as those associated with the proposed project.

Hydrology and Water Quality

Overall risk of water pollution would be slightly reduced under the Gas-Insulated Substation Alternative compared to the proposed project. The alternative would involve 7.3 acres less ground disturbance compared to the proposed project, and would reduce impacts on the drainages southeast and east of the existing substation site. This impact would result in about a 24 percent reduction of impacts on potentially jurisdictional waters compared to the proposed project. This reduced disturbance area would result in a slightly reduced potential for sedimentation and hazardous materials spills that could adversely affect water quality. This reduced disturbance area would result in a slightly reduced potential for sedimentation and hazardous materials spills that could adversely affect water quality (Impact HY-1 and Impact HY-3), and impacts on drainage patterns, including ponding both on and off site (Impact HY-4).

[1] Ultimately, the amount of SF_6 emitted during operation of a gas-insulated substation depends on the exact gas insulated switchgear models chosen for substation equipment because leak amount is a percentage of the volume of SF_6 used in each piece of gas insulated switchgear. The estimate of potential SF_6 emissions for the Gas-Insulated Substation Alternative is based on emissions calculated for a smaller substation. A 230/69/12-kV gas-insulated substation with three switchracks with a gas-insulated substation would, in comparison to an air-insulated substation, increase operational SF_6 emissions by about 6,200 $MTCO_2e$ per year (CPUC 2013). Annual SF_6 emissions under the Gas-Insulated Substation Alternative would be even higher due to a fourth switchrack with a gas-insulated substation for the 500-kV components. Assuming that each switchyard is responsible for one-third of the 6,200 $MTCO_2e$ per year, then the 500-kV switchyard may result in another approximately 2,000 $MTCO_2e$ per year to emissions for a total increase in emissions of 8,329 $MTCO_2e$ per year compared to the proposed project.

The smaller disturbance area associated with the Gas-Insulated Substation Alternative would require less water for dust control during construction than would the proposed project. This alternative would reduce ground disturbance by about 11 percent, which may also reduce water use for dust control at the substation site by 11 percent. The applicant would obtain water from Monterey Park Department of Public Works Water Utility Division, which sources water from groundwater. Thus, slightly less groundwater would be used (Impact HY-2) under the Gas-Insulated Substation Alternative than under the proposed project.

All other impacts related to hydrology and water quality under this alternative would be the same as those associated with the proposed project.

Land Use and Planning

The proposed project would have no impact on land use and planning. Because this alternative would involve a reduced substation in the same location, it would have no impact on land use and planning.

Noise

Noise from the proposed project may be reduced under the Gas-Insulated Substation Alternative because less construction would take place close to sensitive receptors on Holly Oak Drive. The Gas-Insulated Substation Alternative would increase the distance of the substation construction activities to the nearest sensitive receptors on Holly Oak Drive by approximately 190 feet. Thus, noise impacts at these receptors would be reduced by about 2 dBA. Reduction in noise by 2 dBA would not result in a perceptible difference in noise levels. Construction of the Gas Insulated Substation Alternative would negligibly reduce noise impacts (Impact NV-4) compared to the impacts of the proposed project. All other impacts related to noise under this alternative would be the same as those associated with the proposed project.

Population and Housing

It is presumed that the same maximum number of employees would be needed during construction of this alternative as for the proposed project. The duration of need for workers would, however, be shorter than for the proposed project. This could result in a negligible reduction of the potential for temporary population growth in the area, compared to the proposed project, should construction workers relocate to the area. The impacts of this alternative and those of the proposed project would be substantially the same.

All other impacts related to population and housing would be the same as those associated with the proposed project.

Public Services and Utilities

The Gas-Insulated Substation Alternative would have a negligibly reduced potential for the need for public services due to hazardous materials spills, fire, theft, and vandalism, as well as lower production of wastewater and stormwater as a function of the shorter construction period at the substation site and the reduced construction activity and substation footprint compared to the proposed project.

The smaller disturbance area associated with the Gas-Insulated Substation Alternative would require less water for dust control during construction than the proposed project. This alternative

would reduce ground disturbance by about 11 percent, which may also reduce water use for dust construction at the substation by 11 percent.

All other impacts related to public services and utilities would be the same as for the proposed project.

Recreation

It is presumed the same maximum number of employees would be need during construction of this alternative as for the proposed project. The duration of need for workers would, however, be slightly shorter than for the proposed project, resulting in a small potential decrease in the time that workers may need to relocate to the area. Thus, any increased use in recreational facilities due to temporary relocation of construction workers to the area could be negligibly reduced under the Gas-Insulated Substation Alternative compared to the proposed project. The impacts of this alternative and those of the proposed project would be substantially the same.

All other impacts related to recreation under this alternative would be the same as those associated with the proposed project.

Transportation and Traffic

Construction of the Gas-Insulated Substation Alternative would result in total reduced vehicle trips, though the maximum daily vehicle trips would most likely remain the same as under the proposed project. The reduced substation size would result in a shorter construction period and less grading resulting in fewer soil import and export trips, but it is assumed that daily construction activities would not change in intensity. Thus, daily vehicle trips would be about the same under this alternative compared to the proposed project. However, the reduced construction period at the substation under the Gas-Insulated Substation Alternative would result in an overall substantial decrease in total traffic and transportation impacts (Impact TT-1 and Impact TT-2).

All other impacts related to traffic and transportation under this alternative would be the same as those associated with the proposed project.

5.4 Environmentally Superior Alternative

All three alternatives discussed in Section 5.3, "Comparison of Alternatives," are considered environmentally superior to the proposed project. As shown in Table 5.3-3, the One-Transformer-Bank Substation Alternative is considered environmentally superior in nine resource areas, and the Gas Insulated Substation Alternative is considered environmentally superior in two resource areas. For three resource areas, all three alternatives would have about the same level of impacts, and none is more environmentally superior than another; however, all three are environmentally superior to the proposed project.

Although the Gas Insulated Substation Alternative is environmentally superior for noise and aesthetics, this alternative could result in a substantial greenhouse gas impact that may exceed SCAQMD significance thresholds. As explained in Section 5.3.2.3, "Gas Insulated Substation Alternative," the Gas Insulated Substation Alternative would result in a substantial reduction in aesthetic impacts due to the different switchrack equipment. Noise impacts would be only negligibly reduced, as a result of a shorter construction period in a small area close to sensitive receptors on Holly Oak Drive. The Gas-Insulated Substation Alternative may result in a significant

impact related to greenhouse gases that would not occur under the proposed project or under the One-Transformer-Bank Alternative. Recent California greenhouse gas policy indicates that California has determined the reduction of greenhouse gases to be an important goal for the state. Executive Order B-30-15, signed by the Governor on April 29, 2015, set an aggressive greenhouse gas reductions goal—40 percent below 1990 levels by 2030. The 2030 goal ultimately is an interim benchmark to the 2050 goal of 80 percent below 1990 levels. The Executive Order is only the latest state greenhouse gas reduction policy of many, including the California Global Warming Solutions Act of 2006. The Executive Order recognizes several severe, adverse impacts of global warming, including loss of snowpack, drought, increased wildfires, increased smog, and heat waves (State of California 2015). Due to the potentially grave impacts of greenhouse gas emissions, as recognized in the State's latest aggressive policy action to reduce greenhouse gases, the decrease in long-term aesthetic and short-term noise impacts do not outweigh the substantial increase in long-term greenhouse gas emissions increase the Gas-Insulated Substation Alternative would cause compared to the proposed project and to the other alternatives considered.

The One-Transformer-Bank Substation is environmentally superior to all alternatives and to the proposed project in most resource areas. In areas where it is not environmentally superior, the Gas-Insulated Substation is superior. The Gas-Insulated Substation Alternative's long-term greenhouse gas impacts make it environmentally inferior to the One-Transformer-Bank Substation despite its benefits related to noise and aesthetics. The One-Transformer Bank Substation Alternative is therefore considered environmentally superior to the Gas-Insulated Substation Alternative. The One-Transformer Bank Substation Alternative is therefore the Environmentally Superior Alternative.

5.5 No Project Alternative Comparison

This section presents a comparison of the No Project Alternative to the proposed project. The No Project Alternative is described in Section 3.4.4, "No Project Alternative." If Southern California Edison (SCE) could not implement the proposed project, SCE has indicated it would pursue several other actions to address violations of the North American Electric Reliability Corporation, Western Electricity Coordinating Council, and California Independent System Operator reliability standards. Those actions include, in summary:

- Load shed schemes as part of a remedial action scheme
- Generation procurement (617 megawatts (MW)) in the Western Los Angeles Basin
- Two alternative transmission projects of 35 to 100 miles of 500-kV transmission line in Southern California

For most resource sections, it would be speculative to determine the No Project Alternative's impacts. An explanation is provided as to why determining the impacts would be speculative. For air quality, greenhouse gases, and public services and utilities, an analysis of probable impacts of the proposed project are provided.

5.5.1 Aesthetics; Biological Resources; Cultural Resources; Geology, Soils, and Mineral Resources; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population and Housing; Recreation; Traffic and Transportation

It would be speculative to determine the No Project Alternative's impacts to aesthetics; biological resources; cultural resources; geology, soils, and mineral resources; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; population and housing; recreation; and traffic and transportation. The CEQA Guidelines state that "[i]f, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact" (CEQA Guidelines § 15145). For these resource areas, determining impacts is too speculative for evaluation:

- **Aesthetics:** The transmission projects would likely result in aesthetic impacts due to ground disturbance during construction and presence of transmission towers during operation. Construction of transmission line results in temporary degradation of visual quality due to ground disturbance. Transmission towers often cause degradation of visual quality. The generation procurement may result in aesthetic impacts. The precise location of these elements is unknown, and it is unknown whether generation procurement would be from existing facilities or from new facilities that would cause new aesthetic impacts. It would therefore be speculative to determine the potential aesthetic impacts of the No Project Alternative in comparison to the proposed projects.
- **Biological Resources, Cultural Resources; Geology, Soils, and Mineral Resources; Hydrology and Water Quality:** The transmission projects would likely result in impacts on cultural resources; geology, soils, and mineral resources; and hydrology and water quality as a result of ground disturbance during construction. Construction of transmission lines would result in ground disturbance that would increase the potential for discovery of previously unidentified cultural resources, impacts on habitat, and impacts resulting from erosion and sedimentation. New generation facilities would result in the same; however, it is unknown if generation would be procured from existing or new generation facilities. It would therefore be speculative to determine the potential biological resources; cultural resources; geology, soils, and mineral resources; and hydrology and water quality impacts of the No Project Alternative in comparison to the proposed project.
- **Hazards and Hazardous Materials:** Construction of new transmission projects and new generation would require the use of hazardous materials and would result in an increased risk of upset conditions and wildfires. The impact area, number of transmission structures, and general work areas are not known for the transmission lines or new generation, which precludes determination of the potential accident, wildfire, and hazardous materials risks. It is also unknown whether generation would be procured from existing facilities or from facilities that would need to be constructed. It would therefore be speculative to determine the potential hazards and hazardous materials impacts of the No Project Alternative in comparison to the proposed projects.
- **Land Use and Planning, Recreation:** Transmission projects and new generation projects could cause conflicts with land use policies and may interrupt use of recreational facilities. These impacts are dependent on the precise location of transmission projects, which is unknown. It is also unknown whether generation would be procured from existing facilities or from facilities that would need to be constructed. It would therefore be speculative to

determine the potential land use and planning and recreation impacts of the No Project Alternative in comparison to the proposed project.

- **Noise:** Construction of new transmission projects and new generation would result in noise impacts. Transmission lines rated at 500 kV often generate audible corona noise, and generation plants also produce noise during operation. It is unknown where either transmission project or any new generation project would be located in comparison to sensitive receptors. Furthermore, generation could be procured from existing generators. It would therefore be speculative to determine the potential noise impacts of the No Project Alternative in comparison to the proposed project.
- **Population and Housing:** Construction of new transmission projects and new generation projects would require available construction workers. It is not known whether SCE would utilize local workers or workers who would relocate. It is also not known if generation would need to be constructed or if all 617 MW could be procured from existing resources. It would therefore be speculative to determine the potential population and housing impacts of the No Project Alternative in comparison to the proposed project.
- **Traffic and Transportation:** Construction of new transmission projects and new generation projects would require truck and vehicle trips to transport equipment, materials, and workers. The precise locations of construction and the roads that would be used to access construction areas are not known. It is also not known of generation would need to be constructed or if all 617 MW could be procured from existing resources, for which additional truck and vehicle trips may not be necessary. It would therefore be speculative to determine the potential traffic and transportation impacts of the No Project Alternative in comparison to the proposed project.

5.5.2 Air Quality

The No Project Alternative would likely result in higher emissions of criteria pollutants during operation than the proposed project due to procurement of additional generation within the Western Los Angeles Basin, assuming the generation is natural-gas-powered. Resources within the Los Angeles Basin would likely be gas-powered, which would result in long-term emissions from combustion of natural gas. The proposed project would generate criteria pollutant emissions similar to current operations and maintenance. Therefore, the proposed project would be environmentally superior to the No Project Alternative during operations.

Construction of new transmission projects and new generation projects would require truck and vehicle trips to transport equipment, materials, and workers. This would result in emissions of criteria pollutants. Construction would also result in ground disturbance, which would cause fugitive dust. The precise locations of construction, which would indicate vehicle trip lengths and emissions, and amount of ground disturbance, which would indicate that fugitive dust emissions are not known. It is also not known if generation would need to be constructed or if all 617 MW could be procured from existing resources, for which additional truck and vehicle trips may not be necessary. It would therefore be speculative to determine the potential air quality impacts of the No Project Alternative in comparison to the proposed project.

Due to long-term criteria pollutant emissions, the proposed project would be environmentally superior to the No Project Alternative with regards to air quality impacts.

5.5.3 Greenhouse Gas Emissions

The No Project Alternative would result in higher greenhouse gas emissions during operation than would the proposed project due to procurement of additional generation within the Western Los Angeles Basin. Resources within the Los Angeles Basin would likely be gas-powered, which would result in long-term greenhouse gas emissions from combustion of natural gas. The proposed projects would generate greenhouse gas emissions similar to current operations and maintenance. Therefore, the proposed project would be environmentally superior to the No Project Alternative during operations.

Construction of new transmission projects and new generation projects would require truck and vehicle trips to transport equipment, materials, and workers. This would result in greenhouse gas emissions. The precise locations of construction, which would indicate that vehicle trip lengths and emissions, and amount of ground disturbance, which would indicate equipment usage, are not known. It is also not known of generation would need to be constructed or if all 617 MW could be procured from existing resources, for which additional truck and vehicle trips may not be necessary. It would therefore be speculative to determine the potential greenhouse gas impacts from construction of the No Project Alternative in comparison to the proposed project.

Due to long-term greenhouse gas emissions, the proposed project would be environmentally superior to the No Project Alternative with regards to greenhouse gas impacts.

5.5.4 Public Services and Utilities

The load shed schemes implemented as part of the RAS would, in the case that a contingency (e.g., N-1-1, N-2) occurred, result in outages to customers in the area that load shedding is implemented. For example, if load is shed at the Mission Viejo Substation, customers served by the Mission Viejo Substation would be without power for the duration of the contingency. It is expected that the contingency would only last for a few hours, meaning the load shed would only last for a few hours once implemented. This would result in greater utility service impacts than the proposed project. The proposed project would therefore be environmentally superior to the No Project Alternative.

5.5.5 Conclusion

The proposed project would be environmentally superior to the No Project Alternative for the following impacts:

- Operational criteria air pollutant emissions
- Operational greenhouse gas emissions
- Electrical service reliability

Determining whether the No Project Alternative is superior or inferior to the proposed project in all other resource areas would be speculative. It is therefore also speculative to conclude whether the No Project Alternative would be overall environmentally superior to the proposed project or to any of the considered alternatives.