APPENDIX E:
ALTERNATIVES SCREENING REPORT

Alternatives Screening Report

SDG&E Salt Creek Substation Project

San Diego County, California

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PANORAMA ENVIRONMENTAL, INC.

One Embarcadero Center, Suite 740 San Francisco, CA 94111 650-373-1200
www.panoramaenv.com

PANORAMA
ENVIRONMENTAL, INC.

Alternatives Screening Report

Salt Creek Substation Project

San Diego County, California

Submitted to:

Connie Chen
California Public Utilities Commission
Energy Division
505 Van Ness Avenue
San Francisco, CA 94102

Prepared by:

Panorama Environmental, Inc.
One Embarcadero Center, Suite 740
San Francisco, CA 94111
650-373-1200

TABLE OF CONTENTS

List of Tables

List of Figures

1 INTRODUCTION

1.1 PURPOSE

San Diego Gas & Electric (SDG&E) submitted an application (A.13-09-014) for a Permit to Construct (PTC) the Salt Creek Substation Project (proposed project) on September 25, 2013. The application was deemed complete on May 19, 2014. The proposed project is described in detail in Section 2: Project Description of the Environmental Impact Report (EIR). This document describes the alternatives screening analysis that has been conducted for the proposed project, and supports the alternatives analysis presented in Section 3: Alternatives of the EIR.

Alternatives to the proposed project include:

- Alternatives identified by SDG&E in the application for a PTC
- Alternatives identified during the public scoping process that was held in accordance with California Environmental Quality Act (CEQA) requirements
- Alternatives identified by the CPUC EIR team as a result of the independent review of the proposed project impacts and meetings with affected agencies and interested parties

The alternatives screening analysis was completed in order to define alternatives that would be carried forward in the EIR.

This report documents:

1. Alternatives suggested and evaluated
2. Approach and methods used by the CPUC in screening the potential feasibility of these alternatives, according to guidelines established under CEQA
3. Results of the alternatives screening process (i.e., which alternatives are analyzed in the EIR)

The Alternatives Screening Report provides the basis and rationale for whether an alternative has been carried forward to full evaluation in the EIR. For each alternative that was eliminated from further consideration, this document explains in detail the rationale for elimination. Since full consideration of the No Project alternative is required by CEQA, this report does not address the No Project alternative (it is defined in Section 3: Alternatives of the EIR).

1.2 ALTERNATIVES CONSIDERATION IN EIR SCOPING

The process for identifying alternatives to the proposed project involved several steps that included opportunities for public comment. On August 15, 2014, a Notice of Preparation (NOP) announcing a 30-day scoping period (August 15, 2014 to September 15, 2014) was sent to

interested agencies and members of the public to inform recipients that the CPUC was beginning to prepare the Salt Creek Substation Project EIR and was soliciting information that could be helpful in the environmental review process. A scoping meeting had previously been held on November 21, 2013. A Scoping Report was prepared to document comments received during scoping. Alternatives suggested by the public during scoping are evaluated in this ASR.

1.3 SUMMARY OF PROPOSED PROJECT

1.3.1 Project Overview

The proposed project, known as the "Salt Creek Substation Project," is described in detail in Section 2: Project Description of the EIR. SDG&E would construct a new substation in Chula Vista, California and would construct a 69-kilovolt (kV) power line between the Miguel Substation and the proposed substation. The proposed project would be located in Chula Vista and in unincorporated San Diego County in existing SDG&E rights-of-way (ROWs), public ROW, and on land owned by SDG&E.

The proposed substation would be a 120-megavolt-ampere (MVA), 69/12-kV substation. It would be located on 11.64 acres of currently undeveloped land. SDG&E would also install underground 12-kV distribution circuits.

The proposed project would involve constructing and operating a 5-mile-long, 69-kV power line (Transmission Line [TL] 6965) on new steel poles from the existing Miguel Substation to the proposed substation. The project would also entail looping in the existing 69-kV power line (TL 6910) to the proposed substation and installing a new 69-kV circuit position at Miguel Substation to connect the new TL 6965.

1.3.2 Proposed Substation

The proposed project would include construction and operation of the 69/12-kV proposed substation. The proposed substation would be unattended and automated. The proposed substation facilities consist of:

- Two 69/12-kV low-profile 30-MVA transformer banks
- Steel 69-kV bus and associated disconnects
- Six 69-kV gas circuit breakers
- 12-kV switchgear with four 12-kV circuit positions each
- Two 12-kV metal-enclosed capacitor banks
- 69-kV and 12-kV associated relays, controls, and station batteries inside a 40-foot-long by 20-foot-wide enclosed, all-weather structure
- Three 69-kV power lines (TL 6910, TL 6964, and TL 6965)
- Three distribution circuits
- Microwave dish

Additional facilities located inside the enclosed, all-weather structure would include metering, Supervisory Control and Data Acquisition (SCADA), security, and communications equipment.

The approximately 2.4-acre substation pad would be covered with gravel. A 10- to 12-foot-high masonry wall would enclose the substation.

1.3.3 TL 6965

TL 6965 would be approximately 5 miles long, extending from Miguel Substation to the proposed substation. The proposed location of TL 6965 is within an existing transmission corridor, approximately 15 feet from the eastern edge of SDG&E's ROW and 45 feet west of the ROW centerline. TL 6965 would use approximately 49 poles, including eight existing poles within the Miguel Substation property (seven associated with TL 643 and one associated with TL 6910). Approximately 41 new dulled, galvanized steel power poles would be erected along the TL 6965 alignment within the transmission corridor. An approximately 720-foot-long underground duct would contain TL 6965 between the cable pole and the substation rack.

1.3.4 Miguel Substation Modifications

A new 69-kV circuit position would be installed at Miguel Substation for TL 6965. The circuit breaker for TL 6910 would be re-tagged with the designated circuit name TL 6964. TL 643 would be relocated to provide a circuit position for TL 6965. The following modifications would be installed at Miguel Substation:

- Steel supports and associated bus work to extend the 69-kV rack
- Four 69-kV disconnect switches
- Two 69-kV gas circuit breakers
- Associated relays and controls.

1.3.5 Access Roads

Construction work areas would be accessed through a combination of existing paved roads (City and County roads), existing unpaved roads, realigned unpaved roads, overland routes, and footpaths. Access roads would be used for vehicle parking and turn-around, and specific construction site staging.

An existing sewer access road from Hunte Parkway to the proposed substation site would be widened from approximately 12 feet to 30 feet to ensure adequate substation access, and to accommodate the proposed 12-kV underground distribution lines in the access road without disturbing the existing sewer line. SDG&E plans to improve an existing unpaved transmission access road for temporary access to the proposed substation site. The temporary access road would lead south from an existing driveway apron on Hunte Parkway to the approximate location of the TL 6910/TL 6964 cable pole.

Pole work areas would be accessed by existing unpaved access roads, overland travel routes, footpaths, and new unpaved roads within or adjacent to SDG&E's existing ROW. The existing access road would be adjusted at 19 locations to accommodate new pole construction and maintain necessary vehicular access.

The Miguel Substation work areas would be accessed via San Miguel Road and existing access roads within the substation site. Staging yards would be accessed from existing paved and unpaved roads adjacent to the staging yards. No new access roads would be required for the construction of Miguel Substation modifications or for access to staging yards.

1.3.6 Temporary Staging Yards

Up to nine temporary staging yards totaling up to 19.6 acres (not including areas already disturbed for construction of Salt Creek Substation) would be used for the proposed project. These staging yards are:

- Miguel Substation staging yard
- Eastlake Parkway staging yard (located within the transmission corridor between SR-125 and Eastlake Parkway)
- Hunte Parkway staging yard (located between Discovery Falls Drive, Eastlake Parkway, and Crossroads Street)
- OTC staging yards (five potential alternate staging yards)
- Salt Creek Substation pad staging yard (previously disturbed for construction of the proposed substation).

Staging yards would be utilized for pole assembly, open storage of materials and equipment, construction trailers, portable restrooms, parking, refueling for vehicles and construction equipment by a mobile fueling truck, helicopter landing, and temporary overhead power for construction.

An approximately 6-foot-tall chain-link security fence (with screening slats or mesh at the Hunte Parkway and Eastlake Parkway locations) and a locking gate would enclose each staging yard, with the exception of the Salt Creek Substation pad location. The Salt Creek Substation pad staging yard would be enclosed within a temporary 8-foot-tall chain-link fence with locking gate. Construction workers would typically meet at the staging yard each morning and park their vehicles at the yard.

1.4 ALTERNATIVES OVERVIEW

The alternatives screening process has culminated in the identification and screening of 18 potential alternatives. Alternative types include overhead and underground power line alignment alternatives, substation site alternatives, and electrical system alternatives, such as upgrades to other parts of the electrical system, distributed generation, and energy efficiency and conservation. Three alternatives were retained for analysis in the EIR, and 15 alternatives were eliminated from further analysis. The rationale for screening each of these alternatives is presented in detail in Section 3 of this screening report.

Table 1.4-1 lists each project alternative, including the source for each alternative, the alternative type, and whether the alternative was eliminated or retained for analysis in the EIR.

Table 1.4-1 Salt Creek Substation Project Alternatives

Alternative	Source	Type	Eliminated or Retained
Alternative 1: 230/12-kV Substation and 230-kV Loop-In	SDG&E Application	Electrical System	Retained
Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities	CPUC CEQA Team	Electrical System	Retained
Alternative 3: 69/12-kV Substation and Underground 69-kV Power Line within Public ROW	SDG&E Application	Power Line Alignment	Retained
Alternative 4: 69/12-kV Substation and Double-Circuit 69kV Power Line within SDG&E ROW	SDG&E Application	Power Line Alignment	Eliminated
Alternative 5: Expand Existing Area Substations to Increase Capacity	SDG&E Application	Electrical System	Eliminated
Alternative 6: Loop-In TL 6910 and Reconductor Five Additional Power Lines	SDG&E Application	Electrical System	Eliminated
Alternative 7: Future East Urban Center Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 8: Village 9 Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 9: Regional Technology Park Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 10: 300 meters south of Hunte West Substation Site	Public Scoping	Substation Site	Eliminated
Alternative 11: Hunte East Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 12: McMillan Eastern Urban Center Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 13: Baldwin Offer Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 14: Discovery Falls Substation Site	SDG&E Application	Substation Site	Eliminated
Alternative 15: Olympic Parkway and State Route 125 Parcel Substation Site	CPUC CEQA Team	Substation Site	Eliminated
Alternative 16: 69/12-kV Substation and Underground 69-kV Power Line in Existing SDG&E ROW	SDG&E Application	Power Line Alignment	Eliminated

Alternative	Source	Type	Eliminated or Retained
Alternative 17: Energy Efficiency and Conservation Programs	CPUC CEQA Team	Electrical System	Eliminated
Alternative 18: Distributed Renewable Energy Generation	CPUC CEQA Team	Electrical System	Eliminated

2 ALTERNATIVES DEVELOPMENT

2.2 CEQA REQUIREMENTS

One of the most important aspects of the environmental review process is the identification and assessment of a reasonable range of alternatives that have the potential to avoid or reduce the significant impacts of a project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126.6) emphasize the selection of a reasonable range of technically feasible alternatives that meet most of the basic project objectives, and an adequate assessment of these alternatives to allow decision makers to make a comparative analysis of potential environmental effects. CEQA Guidelines specify that an EIR need not consider an alternative when its effects cannot be reasonably ascertained and when implementation is remote or speculative. CEQA Guidelines (Section 15126.6) also require an explanation of why rejected alternatives are considered infeasible.

2.3 SIGNIFICANT ENVIRONMENTAL IMPACTS

Potentially significant environmental impacts resulting from the proposed project were evaluated to develop alternatives and determine whether an alternative would meet CEQA Guidelines Section 15126.6 requirements. Table 2.3-1 presents a summary of the significant environmental effects of the proposed project (prior to applying mitigation). Impacts on Aesthetics, Noise, and Recreation would be significant even after mitigation.

2.4 SDG&E ALTERNATIVES

SDG&E's application included alternatives pursuant to Section IX.B.1(c) of CPUC General Order (GO) 131-D. SDG&E analyzed the following:

- No Project Alternative
- Two alternative modifications to the existing electrical system
- Seven alternative locations for the proposed substation site
- Four alternatives for the proposed power line alignment.

SDG&E generally described the evaluation process used to assess each alternative and the rationale for selecting the proposed project. Additional information can be found in the SDG&E application (Application No. 13-09-014) and PEA, which are available for public review at the CPUC Energy Division CEQA Unit and at the following website:

http://www.cpuc.ca.gov/Environment/info/panoramaenv/Salt_Creek/index.html

Table 2.3-1 Summary of Significant Environmental Impacts of the Project

Issue Area		Impact
4.1	Aesthetics	**Impact Aesthetics-1:** Potential to substantially degrade the existing visual character or quality of the site and its surroundings during construction (*Significant and unavoidable*) **Impact Aesthetics-2:** Potential to substantially degrade the existing visual character or quality of the site and its surroundings during operation (*Less than significant with mitigation*) **Impact Aesthetics-3:** Potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway or designated scenic roadway during construction (*Significant and unavoidable*) **Impact Aesthetics-4:** Potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway or designated scenic roadway during operation (*Less than significant with mitigation*) **Impact Aesthetics-6:** Potentially create a new source of substantial light or glare that would adversely affect day or nighttime views in the area (*Less than significant with mitigation*)
4.3	Air Quality	**Impact Air-2**: Violate any air quality standard or contribute substantially to an existing or projected air quality violation (*Less than significant with mitigation*)
4.4	Biological Resources	**Impact Bio-1:** Potential for substantial adverse effect from project construction, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (*Less than significant with mitigation*) **Impact Bio-2:** Potential for substantial adverse effect from project construction, either directly or through habitat modifications, on any invertebrate species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS (*Less than significant with mitigation*) **Impact Bio 4:** Potential for substantial adverse effect from project construction, either directly or through habitat modifications, on any avian species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS (*Less than significant with mitigation*) **Impact Bio 5:** Potential for substantial adverse effect from project construction, either directly or through habitat modifications, on any mammalian species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS (*Less than significant with mitigation*) **Impact Bio 6:** Potential for substantial adverse effect from project operation and maintenance, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS (*Less than significant with mitigation*) **Impact Bio-7:** Potential to cause a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS (*Less than significant with mitigation*) **Impact Bio-8:** Potential to cause a substantial adverse effect on federally

Issue Area		Impact
		protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (*Less than significant with mitigation*)
4.5	Cultural and Paleontological Resources	**Impact Cultural-1:** Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5 (*Less than significant with mitigation*) **Impact Cultural-2:** Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5 (*Less than significant with mitigation*) **Impact Cultural-4:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (*Less than significant with mitigation*)
4.6	Geology and Soils	**Impact GeologySoils-4:** Potential for substantial soil erosion or the loss of topsoil (*Less than significant with mitigation*)
4.7	Greenhouse Gas Emissions	**Impact GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases (*Less than significant with mitigation*)
4.8	Hazards and Hazardous Materials	**Impact Hazards-1:** Potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through accidental release of a hazardous material through upset or accident conditions (*Less than significant with mitigation*) **Impact Hazards-3:** Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school (*Less than significant with mitigation*) **Impact Hazards-6:** Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (*Less than significant with mitigation*) **Impact Hazards-7:** Potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (*Less than significant with mitigation*)
4.9	Hydrology and Water Quality	**Impact Hydro-1:** Potential to violate any water quality standards or waste discharge requirements (*Less than significant with mitigation*) **Impact Hydro-3:** Potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site (*Less than significant with mitigation*) **Impact Hydro-5:** Potential to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or otherwise degrade water quality (*Less than significant with mitigation*)
4.12	Noise	**Impact Noise-4:** Potential to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction (*Significant and unavoidable*)
4.15	Recreation	**Impact Recreation-1:** Potential to substantially disrupt recreational activities or increase the use of recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated (*Less than*

Issue Area		Impact
		significant with mitigation)
		Impact Recreation-2: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment (*Less than significant with mitigation*)
		Impact Recreation-3: Have a substantial adverse effect on the recreational value of existing recreational facilities during construction (*Significant and unavoidable*)
		Impact Recreation-4: Have a substantial adverse effect on the recreational value of existing recreational facilities during operation and maintenance (*Less than significant with mitigation*)
4.16	Transportation and Traffic	**Impact Traffic-1:** Conflict with an applicable plan including a congestion management plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system or other standards, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (*Less than significant with mitigation*)
		Impact Traffic-2: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (*Less than significant with mitigation*)
		Impact Traffic-3: Potential to substantially increase hazards due to a design feature or incompatible uses (*Less than significant with mitigation*)
		Impact Traffic-4: Result in inadequate emergency access (*Less than significant with mitigation*)
		Impact Traffic-5: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (*Less than significant with mitigation*)
4.17	Utilities and Service Systems	**Impact Utilities-7:** Not comply with federal, state, and local statutes and regulations related to solid waste (*Less than significant with mitigation*)
		Impact Utilities-8: Cause substantial deterioration or damage to gas, water, or sewer pipelines (*Less than significant with mitigation*)
		Impact Utilities-9: Disrupt existing utility systems or conflict with utility ROWs (*Less than significant with mitigation*)

Alternatives presented by SDG&E in its PEA were independently reviewed by the CPUC CEQA team, as described below.

2.4.1 No Project Alternative

CEQA requires that a No Project Alternative be considered in EIRs (CEQA Guidelines Section 15126.6(e)). The No Project Alternative is the circumstance under which the proposed project does not proceed (CEQA Guidelines Section 15126.6(e)(3)(B)). The purpose of describing and analyzing a No Project Alternative is to allow decision-makers to compare the effects of approving the proposed project with the effects of not approving the proposed project. See Section 3 of the EIR for a description of the No Project Alternative.

2.4.2 Electrical System Alternatives

SDG&E evaluated two electrical system alternatives in their PEA. One alternative would avoid the need for the proposed substation and 69-kV power line by expanding existing area substations to increase local capacity and possibly transfer load between different substations. Another alternative would construct a new 230/12-kV substation that would loop-in the existing 230-kV transmission line, which would avoid the need for the proposed power line component.

2.4.3 Salt Creek Substation Site Alternatives

SDG&E began discussing a new substation site with the City of Chula Vista and the University Framework Committee in 2002 (SDG&E 2013). Many potential substation sites were evaluated over an approximately 10-year period, including the proposed project substation location and seven alternative sites. In addition, SDG&E worked with the City of Chula Vista on the proposed substation design for approximately two years. In June 2011, SDG&E purchased the 11.64-acre parcel at the proposed project substation location for future development of a substation to service existing and future development in the surrounding area. The PEA evaluated seven alternative substation site locations in the area.

2.4.4 Power Line Alignment Alternatives

SDG&E considered four alternatives to the proposed power line route in their PEA. Power line alignment alternatives included underground and overhead alignments within SDG&E ROW and franchise.

2.5 OTHER ALTERNATIVES

The CPUC CEQA Team developed four additional alternatives to meet the project objectives and reduce environmental impacts. One substation site alternative was proposed during public scoping. These alternatives include:

- One system alternative
- Two substation site alternatives
- Two non-wire alternatives

These alternatives were developed through evaluation of the electrical system; aerial imagery to identify potential alternative substation sites and power line alignments; and consideration of energy efficiency and conservation, distributed generation, and renewable energy goals.

2.5.1 Electrical System Alternatives

Pursuant to California PUC Section 1002.3, the CPUC must consider cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity. In certain cases it may be easier, cheaper, and environmentally preferable to eliminate or shift demand, or to locate generation strategically, than it is to build new transmission lines. As topics such as energy efficiency, demand response (the temporary reduction of demand during peak load periods), and distributed generation (such as roof-

mounted solar photovoltaic) gain sophistication as a result of various policy drivers, they are becoming increasingly viable alternatives to building new transmission facilities.

Energy efficiency and conservation, demand response, and generation are already considered during the CAISO annual planning process, which evaluates a transmission solution or a non-transmission solution to meet an identified need. CAISO considers a 10-year planning horizon in the evaluation. Assumptions for energy use reductions and generation are included in the initial base case analysis, and non-transmission projects can be submitted for consideration as alternatives to transmission additions or upgrades. CAISO applies the same criteria for evaluating both transmission and non-transmission alternatives.

2.5.2 Salt Creek Substation Site Alternatives

The development of an alternative location for the proposed substation and power line is constrained by existing and planned land development in the area and by the Otay Ranch Multiple Species Conservation Program (MSCP) Preserve. In addition, SDG&E and the City conducted an evaluation of potential locations for the substation over a 10-year period, as described in Section 2.4.3. The proposed location was selected based on the results of that process. An alternate substation location was suggested during public scoping and the CPUC CEQA Team identified an additional substation site alternative.

3 OVERVIEW OF ALTERNATIVES EVALUATION

The range of alternatives in the screening report was identified through the CEQA scoping process and through supplemental studies and consultations that were conducted during the course of this analysis. The range of alternatives considered in the screening analysis encompasses:

- Alternatives identified by SDG&E
- Alternatives identified during the public scoping process that was held in accordance with CEQA requirements
- Alternatives identified by the CPUC EIR team as a result of the independent review of the proposed project impacts and meetings with affected agencies and interested parties.

3.1 ALTERNATIVES SCREENING METHODOLOGY

The evaluation of alternatives to the proposed project was completed using a screening process that consisted of several steps:

1. Identify significant impacts of the proposed project
2. Review and evaluate the SDG&E alternatives evaluation process
3. Identify alternative methods of meeting objectives that would avoid a significant effect
4. Evaluate each alternative using CEQA criteria (defined below)
5. Determine the suitability of each alternative for full analysis in the EIR

3.2 CEQA REQUIREMENTS FOR ALTERNATIVES

CEQA provides guidance on selecting a reasonable range of alternatives for evaluation in an EIR. This alternatives screening and evaluation process satisfies CEQA requirements. The CEQA requirements for selection of alternatives are described below.

An important aspect of EIR preparation is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. The CEQA Guidelines require consideration of the no project alternative (Section 15126.6(e)) and selection of a range of reasonable alternatives (Section 15126.6(d)). The EIR must adequately assess these alternatives to allow for a comparative analysis for consideration by decision-makers. The CEQA Guidelines (Section 15126.6(a)) state that:

> An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the

> basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.

To comply with CEQA requirements, each alternative that has been suggested or developed for this project has been evaluated in three ways:

1. Does the alternative accomplish all or most of the basic project objectives?
2. Is the alternative potentially feasible (from economic, environmental, legal, social, technological standpoints)?
3. Does the alternative avoid or substantially lessen any significant effects of the proposed project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed project)?

Each of these bullets is described in more detail in the following sections.

3.2.1 Consistency with Project Objectives

CEQA Guidelines require the consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives" (Section 15126.6 (b)). Therefore, it is not required that each alternative meet all project objectives. SDG&E objectives for the proposed project are defined in their PEA. The CPUC did not adopt the objectives that SDG&E has defined for the proposed project in this Draft EIR because they were too narrowly defined and precluded consideration of alternatives. SDG&E's defined objectives are to:

1. Meet the area's projected long-term electric distribution capacity needs by constructing the proposed substation near planned load growth to maximize system efficiency
2. Provide three 69-kV circuits into the proposed substation to serve load growth in the region and meet the regulatory requirements of the NERC, WECC, and CAISO
3. Provide substation and circuit tie capacity that would provide additional reliability for existing and future system needs
4. Reduce loading on area substations to optimum operating conditions, providing greater operational flexibility to transfer load between substations within the proposed substation service territory
5. Comply with and respect the outcome of the extensive community-based public process to select a site for a new substation in the Otay Ranch area, as evidenced by City of Chula Vista City Council Resolution 2011-073

6. Meet proposed project needs while minimizing environmental impacts by siting the substation on property designated for future development that is located outside of the City of Chula Vista's MSCP Preserve
7. Locate proposed new power facilities, as appropriate and as needed, within existing utility ROWs, access roads, and utility-owned property.

The CPUC CEQA Team requested additional technical data (e.g., power flow models and load growth assumptions) from SDG&E and conducted an independent assessment to better define the basic objectives of the proposed project for use in the alternatives screening process. The basic objectives for the proposed project identified by the CPUC CEQA Team based on the technical data and additional analysis are:

1. Meet the projected long-term electric distribution capacity needs in the southeastern Chula Vista service territory
2. Provide substation and circuit tie capacity that would provide additional reliability for existing and future system needs
3. Reduce loading on area substations to optimum operating conditions, providing greater operational flexibility to transfer load between substations.

3.2.2 Feasibility

The CEQA Guidelines (Section 15364) define feasibility as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

The alternatives screening analysis is largely governed by what CEQA terms the "rule of reason," meaning that the analysis should remain focused, not on every possible eventuality, but rather on the alternatives necessary to permit a reasoned choice. Those alternatives that are potentially feasible, while still meeting most of the project objectives, will be fully analyzed in the EIR.

Among the factors that may be considered when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites (CEQA Guidelines Section 15126.6). For the screening analysis, the feasibility of potential alternatives was assessed taking the following factors into consideration:

- Legal Feasibility:
  - Does the alternative avoid lands that have legal protection that may prohibit or substantially limit the feasibility of permitting a power line? Lands that are afforded legal protections that would prohibit the construction of the project, or require an act of Congress for permitting,

are considered less feasible locations for the project. These land use designations include:

- Wilderness areas
- Wilderness study areas
- Restricted military bases
- Airports
- Indian reservations

Information on potential legal constraints of each alternative was compiled from laws, regulations, and local jurisdictions, as well as a review of federal, state, and local agency land management plans and policies.

- Regulatory Feasibility:
  - Do regulatory restrictions substantially limit the likelihood of successful permitting of a power line?
  - Is the alternative consistent with regulatory standards for transmission system design, operation, and maintenance?
- Technical Feasibility:
  - Is the alternative feasible from a technological perspective, considering available technology?
  - Are there any construction, operation, or maintenance constraints that cannot be overcome?
- Environmental Feasibility:
  - Would implementation of the alternative cause substantially greater environmental damage than the proposed project, thereby making the alternative inferior from an environmental standpoint? This issue is primarily addressed in terms of the alternative's potential to eliminate significant effects of the proposed project without creating new significant environmental impacts or substantially greater impacts than the proposed project.
- Economic Feasibility:
  - Is the alternative so costly that implementation would be prohibitive?

The screening analysis assessed the legal, regulatory, and technical feasibility of potential alternatives separately from the environmental criteria. A determination was made as to whether there was anything about the alternative that would be infeasible on technical, legal or regulatory grounds. An assessment was also made to determine whether an alternative would reduce the significant environmental impacts of the proposed project without creating substantially greater environmental impacts in other areas.

The screening analysis did not focus on relative economic factors or costs of the alternatives (as long as they were not so costly that costs would prohibit implementation) since CEQA Guidelines require consideration of alternatives capable of

eliminating or reducing significant environmental effects, even though they may "impede to some degree the attainment of project objectives or would be more costly" (CEQA Guidelines Section 15126.6(b); 14 CCR 15000 et seq.). The CPUC's PTC proceedings will separately and specifically consider cost issues.

3.2.3 Potential to Eliminate Significant Environmental Effects

CEQA requires that an alternative must have the potential to "avoid or substantially lessen any of the significant effects of the project" to be fully considered in an EIR (CEQA Guidelines Section 15126.6(a)).

If an alternative was identified that clearly would not provide potential overall environmental advantage as compared to the proposed project, it was eliminated from further consideration. It is neither possible, nor legally required, to evaluate all of the impacts of the alternatives in comparison to the proposed project with absolute certainty, nor is it possible to quantify impacts at the screening stage. It is possible to identify elements of an alternative that are likely to be the sources of impact and to relate them, to the extent possible, to general conditions in the subject area in the screening process.

4 ALTERNATIVES DESCRIPTIONS AND DETERMINATIONS

The alternatives described in detail in this section include electrical system alternatives, power line alignment alternatives, substation site alternatives, and non-wire alternatives. Each alternative was evaluated using considerations described in Section 2.

If a potential alternative was found to be unable to meet the basic project objectives; was proven infeasible; or if it did not appear to reduce or avoid potentially significant impacts of the proposed project without creating other significant impacts of its own, then it was eliminated from full evaluation. Alternatives that were determined to meet the CEQA alternatives screening criteria were retained for full analysis in the EIR.

Sections 4.3 and 4.4 describe each alternative, the consideration of CEQA criteria, and the conclusions for alternative elimination or retention. Note that the No Project Alternative is required to be considered in an EIR by CEQA, so it is described in Section 3: Alternatives of the EIR and is not discussed in this Alternatives Screening Report.

4.1 SUMMARY OF ALTERNATIVES SCREENING ANALYSIS

Table 4.1-1 provides a list of the alternatives considered, and the results of the screening analysis with respect to the criteria findings for consistency with project CEQA objectives, feasibility, and environmental effectiveness. Alternative substation site locations can be viewed in Figure 4.1-1. Alternatives carried forward for EIR analysis are listed below. Alternatives eliminated from further consideration are described in Section 4.4.

The alternatives evaluation found that the project objectives could feasibly be met by alternative solutions, including:

1. Alternative 1: 230/12-kV Substation and 230-kV Loop-In
2. Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities
3. Alternative 3: 69/12-kV Substation and Underground Power Line within Public ROW

Table 4.1-1 Summary of Alternatives Screening Analysis

Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Retained for Analysis in EIR				
Alternative 1: 230/12-kV Substation and 230-kV Loop-In: Construct a new 230/12-kV substation and associated equipment along the existing transmission corridor. "Loop-in" the existing 230-kV transmission line and avoid the need for a new power line component. Major components include: • Construct a new 230/12-kV substation along the existing ROW; and • Construct new underground 12-kV distribution circuits and connect to the existing network.	Meets all project objective criteria	Potentially feasible	Meets environmental criteria by avoiding impacts associated with the power line, but would result in additional impacts at the substation area	Electrical System
Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities: Construct a 69/12-kV substation and run one gas turbine located at Border and two gas turbines located at the LEF during peak energy demand. Major components include: • Construct a new 69/12-kV substation along the existing ROW; • Construct three distribution circuits to tie in to the existing distribution network at Hunte Parkway; • Construct an underground loop-in of the existing 69-kV power line (TL 6910) and fiber optic line; and • Run up to three existing gas turbines during times of peak energy demand.	Meets all project objective criteria	Potentially feasible	Meets environmental criteria by avoiding environmental impacts associated with the power line	Electrical System

Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Alternative 3: 69/12-kV Substation and 69-kV Underground Power Line within Public ROW: Construct a new 69/12-kV substation along the existing ROW. Build a new underground 69-kV power line within public roads and easements from the Miguel Substation to the proposed substation.	Meets all project objective criteria	Potentially feasible	Meets environmental criteria by avoiding impacts associated with the proposed overhead power line. Would result in potentially greater transportation and traffic, and air quality impacts than proposed project due to undergrounding	Power Line Alignment
Eliminated from EIR Consideration				
Alternative 4: 69/12-kV Substation and Double-Circuit 69-kV Power Line within SDG&E ROW: Construct a new 69/12-kV substation along the existing ROW. Rebuild existing power line TL 6910 and convert it to a double-circuit line to eliminate the need for a new power line component.	Meets all project objective criteria	Potentially feasible; would be technically challenging to implement while keeping the current line in service	Does not meet environmental criteria; would not reduce a significant environmental impact and would result in potentially greater impacts to cultural resources, noise, and utilities	Power Line Alignment
Alternative 5: Expand Existing Area Substations to Increase Capacity: Expand existing substations in the area to increase local capacity, and possibly transfer load between different substations. Major components include: • Install new transformers and associated equipment; • Acquire land to increase size of existing substations and provide the necessary space for new equipment; • Potentially rebuild existing 69-kV circuits, converting them to double-circuit lines; and • Possibly install new underground duct and structure system throughout the area to carry new distribution circuits.	Does not meet any of the project objectives, including meeting the area's projected long-term electric distribution capacity needs, nor does it optimize operating conditions	Potentially feasible	Does not meet environmental criteria: substation expansion would disturb area within City of Chula Vista's MSCP Preserve	Electrical System

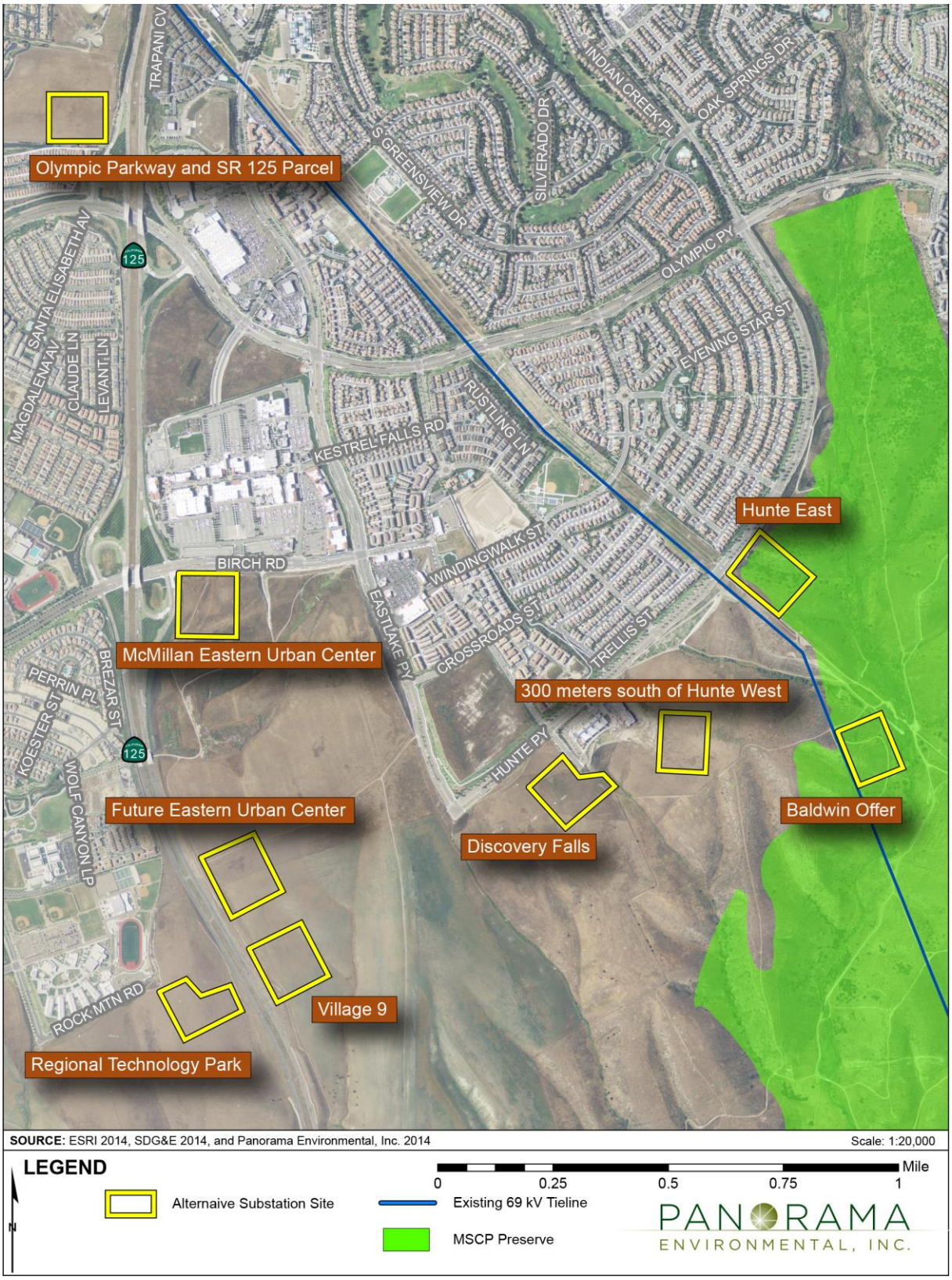
Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Alternative 6: 69/12-kV Substation, Loop-In TL 6910 and Reconductor Five Additional Power Lines: Construct a 69/12-kV substation at the proposed substation site and conduct line upgrades, including rebuilding and reconductoring five different power lines (approximately 25 miles), to meet system operating criteria.	Meets all project objective criteria	Potentially feasible	Does not meet environmental criteria; would require construction for upgrades along 25 miles of existing power lines resulting in potentially greater air quality, noise, biological, cultural, hydrology, and geology impacts from additional ground disturbance	Electrical System
Alternative 7: Future East Urban Center: • Construct a 69/12-kV substation east of SR-125 and south of Hunte Parkway • Construct a 69-kV power line to Miguel Substation and loop-in TL 6910	Meets all project objective criteria	Not technically feasible	Does not meet environmental criteria; would not reduce environmental impacts and would result in greater impacts from constructing a new power line outside of SDG&E's transmission corridor	Substation Site
Alternative 8: Village 9: • Construct a 69/12-kV substation east of SR-125 and south of the alternative Future East Urban Center substation site • Construct a 69-kV power line to Miguel Substation and loop-in TL 6910	Meets all project objective criteria	Potentially feasible	Does not meet environmental criteria; would not reduce environmental impacts and would result in greater impacts from constructing a new power line outside of SDG&E's transmission corridor in open space	Substation Site

Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Alternative 9: Regional Technology Park: • Construct a 69/12-kV substation west of SR-125 and south of Rock Mountain Road • Construct a 69-kV power line to Miguel Substation and loop-in TL 6910	Meets all project objective criteria	Potentially feasible	Does not meet environmental criteria; substation site would not reduce environmental impacts and would result in increased impacts from locating a substation next to a school with a longer power line outside of SDG&E's transmission corridor	Substation Site
Alternative 10: 300 meters south from Hunte West: • Construct a 69/12-kV substation 300 meters south of the proposed substation site • Construct loop-in of TL 6910 approximately 300 meters south of proposed loop-in • Construct a 69-kV power line in the transmission corridor starting approximately 300 meters south of proposed location • Construct distribution circuits to Hunte Parkway	Meets all project objective criteria	Potentially feasible	Does not meet all environmental criteria; site would not reduce environmental impacts and would result in greater impacts to aesthetics, biology, geology and soils, hydrology and water quality, hazards, and noise	Substation Site
Alternative 11: Hunte East: • Construct a 69/12-kV substation east of the transmission corridor and south of Hunte Parkway • Loop-in TL 6910 and construct a new 69-kV power line within the transmission corridor (as proposed)	Meets all project objective criteria	Not feasible from a regulatory standpoint	Does not meet environmental criteria; would not reduce environmental impacts and substation site would disturb area within MSCP Preserve	Substation Site
Alternative 12: McMillan Eastern Urban Center: • Construct a 69/12-kV substation south of Birch Road and west of SR-125 • Construct a 69-kV power line to Miguel Substation and an interconnect to TL 6910	Meets all project objective criteria	Not technically feasible	Meets environmental criteria by locating the substation closer to a commercial area where visual and biological impacts would be reduced. Increases potential impacts from extension of the power line east of the transmission corridor	Substation Site

Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Alternative 13: Baldwin Offer: • Construct a 69/12-kV substation approximately 0.25 mile south of Hunte Parkway and east of the transmission corridor • Loop-in TL 6910 and extend TL 6965 further south to the alternative substation site	Meets all project objective criteria	Not feasible from a regulatory standpoint	Does not meet environmental criteria; would not reduce environmental impacts and would result in greater impacts by locating the substation within MSCP Preserve	Substation Site
Alternative 14: Discovery Falls: • Construct a 69/12-kV substation south of Hunte Parkway and west of Discovery Falls • Construct a 69-kV power line to Miguel Substation and an interconnect to TL 6910	Meets all project objective criteria	Potentially feasible	Does not meet environmental criteria; would not reduce environmental impacts and would result in greater impacts from extension of a power line and locating the substation directly adjacent to a school	Substation Site
Alternative 15: Olympic Parkway and State Route 125 Parcel: • Construct a 69/12-kV substation west of SR-125 and south of Olympic Parkway • Loop-in TL 6910 and construct a new 69-kV power line to Miguel Substation within the utility corridor and SDG&E ROW	Meets all project objective criteria	Not feasible from a regulatory or economic standpoint	Meets environmental criteria; would reduce impacts from construction of the substation site by constructing on a previously disturbed parcel and would reduce impacts from construction of the power line by reducing the extent of new power line. Would result in greater land use impacts by locating the substation within a residential subdivision	Substation Site

Description of Alternatives	CEQA Team Project Objectives Criteria	Feasibility Criteria	Environmental Criteria	Type of Alternative
Alternative 16: 69/12-kV Substation and Underground Power Line within Existing SDG&E ROW: Construct a new 69/12-kV substation and build a new underground 69-kV power line to the proposed substation in SDG&E ROW.	Meets all project objective criteria	Not technically feasible	Does not meet environmental criteria; would reduce visual impacts but would result in greater impacts to air quality, noise, biological resources, geology and soils, hydrology, and cultural resources than proposed project	Power Line Alignment
Alternative 17: Energy Efficiency and Conservation Programs: Implement programs to increase energy efficiency and conservation to reduce system loading and demand for power.	Does not meet project objective criteria	These programs are not feasible on a scale that would be suitable to replace the proposed project within a reasonable period of time	Meets environmental criteria; would avoid all impacts associated with the project. Implementation of programs would result in no or minimal potential impacts across resource areas and beneficial cumulative greenhouse gas emission reductions.	Non-Wires
Alternative 18: Distributed Renewable Energy Generation: Use existing and proposed distributed generation of renewable resources to address future load and demand.	Does not meet project objective criteria	This is not feasible within the timeframe for the project and additional substation capacity would still be required	Meets environmental criteria; would avoid all impacts associated with the project. Distributed renewables typically involve small projects and potential impacts would not likely be significant.	Non-Wires

Figure 4.1-1 Alternative Substation Site Locations



Summary of Alternatives Analyzed in the EIR

The alternatives listed below are those that have been selected through the alternative screening process for detailed analysis in the EIR; the No Project Alternative is also included as required by CEQA. Each of the alternatives, with the exception of the No Project Alternative, would substantially meet project objectives, would be feasible, and would avoid or reduce potential environmental effects of the proposed project. The alternatives analyzed in the EIR include:

1. **Alternative 1:** 230/12-kV Substation and 230-kV Loop-in
2. **Alternative 2:** 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities
3. **Alternative 3:** 69/12-kV Substation and Underground 69-kV Power Line within Public ROW
4. **No Project Alternative**

The alternatives are illustrated in Figures 4.1-2 through 4.1-4, and briefly described in Table 4.1-1, as well as in greater detail in Section 4.3, with the exception of the No Project Alternative, which is discussed in detail only in the EIR.

Figure 4.1-2 Alternative 1 – 230/12-kV Substation and 230-kV Loop-In

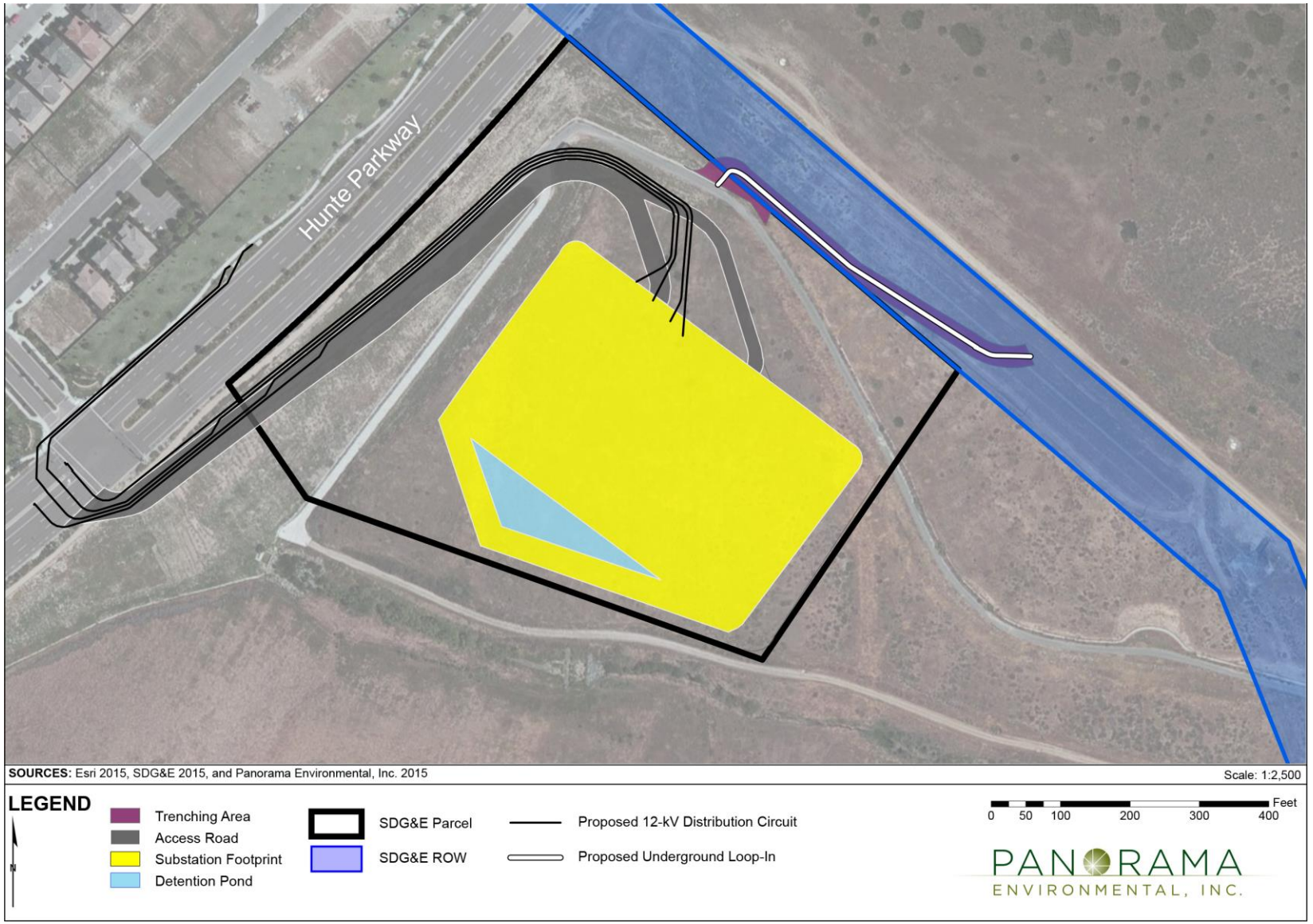
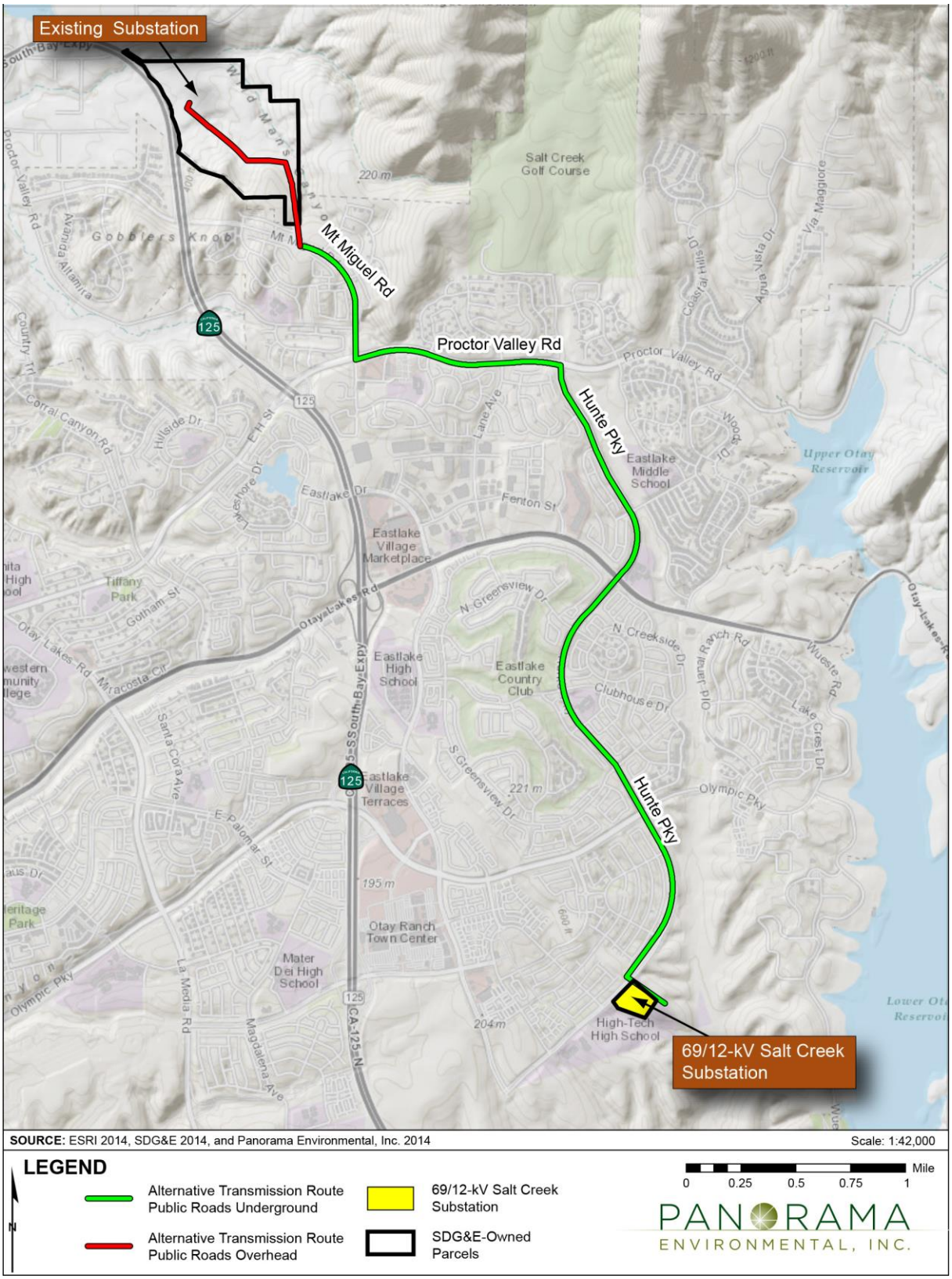


Figure 4.1-3 Alternative 2 – 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities

Figure 4.1-4 Alternative 3 – 69/12-kV Substation and Underground 69-kV Power Line within Public ROW



4.2 SUMMARY OF ALTERNATIVES ELIMINATED FROM EIR CONSIDERATION

The alternatives that have been eliminated from EIR analysis through the alternative screening process are listed below. These alternatives have been eliminated due to a failure to meet most basic project objectives, constraints that would make the alternative infeasible, and in some cases, because the alternative would have greater environmental impacts than the proposed project. The rationale for elimination of each alternative is summarized in Table 4.1-1 and is described in greater detail in Section 4.4.

- Electrical System Alternatives:
  - Alternative 4: 69/12-kV Substation and Double-Circuit 69-kV Power Line within SDG&E ROW
  - Alternative 5: Expand Existing Area Substations to Increase Capacity
  - Alternative 6: Loop-In TL 6910 and Reconductor Five Additional Power Lines
- Alternative Substation Sites:
  - Alternative 7: Future East Urban Center
  - Alternative 8: Village 9
  - Alternative 9: Regional Technology Park
  - Alternative 10: 300 meters south of Hunte West
  - Alternative 11: Hunte East
  - Alternative 12: McMillan Eastern Urban Center
  - Alternative 13: Baldwin Offer
  - Alternative 14: Discovery Falls
  - Alternative 15: Olympic Parkway and Parcel
- Power Line Alignment Alternatives:
  - Alternative 16: New 69-kV Underground Power Line within existing SDG&E ROW
- Non-Wires Alternatives:
  - Alternative 17: Energy Efficiency and Conservation Programs
  - Alternative 18: Distributed Renewable Energy Generation

4.3 ALTERNATIVES ANALYZED IN THE EIR

The three alternatives carried forward for analysis in the Draft EIR are described here. The level of detail presented here is intended to allow for an equal level of detail in consideration of potential impacts of these alternatives relative to the proposed project in the event that the CPUC selects one of the alternatives to meet the project objectives.

4.3.1 Alternative 1: 230/12-kV Substation and 230-kV Loop-In

Description

Alternative 1 involves construction of a new 230/12-kV substation within the approximately 11-acre parcel that is the proposed location for the Salt Creek Substation (Figure 4.1-2). The new 230/12-kV substation would include:

- A new 230/12-kV substation along the existing ROW and south of Hunte Parkway;
- An underground loop-in of existing 230-kV transmission line to the new 230/12-kV substation; and
- A new underground 12-kV distribution circuits to connect to the existing network.

The 230/12-kV substation is a standard height substation (as opposed to the low-profile substation design of the proposed 69/12-kV substation). The larger height of the substation is required due to the larger height of the structures required in a higher voltage 230-kV substation. The tallest substation structures would be the approximately 55-foot-tall bank deadend and the approximately 38-foot-tall main bus structure. Estimated grading limits would include approximately 39,000 CY of cut and approximately 148,000 CY of raw fill. Additional mechanically stabilized earth (MSE) retaining walls with a height range of 2 feet to 40 feet would be required to keep grading to within the proposed substation site. The 230/12-kV substation detention basin would be approximately 20,000 square feet. The dimensions of access road to the substation would be the same as the proposed project. To meet the reliability and operational flexibility of other 230-kV substations in the SDG&E bulk power system, the 230/12-kV substation would involve a breaker-and-a-half configuration rather than the single-breaker, single-bus configuration included in the proposed substation design.

Cable poles would be installed to construct the underground loop-in, which would possibly require the construction of other structure(s) within the site. The 230-kV cable poles would be approximately 150 feet tall, roughly 60 to 80 feet taller than the proposed 69-kV cable poles. The 230-kV cable poles would have a larger profile to accommodate phase spacing and the need for the 230-kV cables to come down the outsides of the poles. Underground distribution ducts would be located south of an existing sewer line.

Construction of Alternative 1 is estimated to take 24 to 30 months. At the peak of construction, approximately 40 trucks (80 trips per day) traveling up to 60 miles would be required daily for construction of the 230/12-kV substation. Larger cranes would be needed to install the taller A-frames, and a bigger hauler would be needed to transport the 230/12-kV transformers. The equipment required to construct the substation would otherwise be similar to the proposed project substation.

The quantity of sulfur hexafluoride (SF_6) in a 230-kV circuit breaker is approximately 161 pounds, compared to approximately 33 pounds of SF_6 in each of the proposed project's six 69-kV circuit breakers. Alternative 1 would use six breakers for a total estimated quantity of 966 pounds of SF_6, which equates to estimated maximum emissions of 4.8 pounds annually (the proposed project would emit approximately 0.2 pounds of SF_6 annually). Approximately 10,000

gallons of mineral oil will be required for each 230-kV transformer, equating to 30,000 gallons total (two transformers plus a spare). The proposed would require 5,500 gallons of mineral oil for each of the two 69-kV transformers, equating to 11,000 gallons total.

Maintaining the 230/12-kV substation would require additional resources relative to the proposed project. There is no portable transformer to use when taking this equipment out for service. Maintenance on the 230-kV transformer would require offloading the circuits and putting them onto the other transformer. This would cause a reliability issue when all of the circuits are being fed off of one transformer. A spare transformer would therefore be needed to provide operational flexibility. In the event that a transformer goes out of service permanently, the lead time to replace the transformer would be approximately 18 to 24 months because the transformer would need to be manufactured since there are no spare transformers elsewhere in the SDG&E system.

Rationale for Full Analysis

Project Objectives
The 230/12-kV substation alternative would meet the three project objectives defined by the CPUC CEQA Team. The 230/12-kV substation could pose technical issues for transferring load between the 69/12-kV and 138/12-kV substations in the area. This alternative may achieve the objective of providing greater operational flexibility but to a lesser degree than the proposed project; however, it meets all of the CPUC project objectives.

Feasibility
This alternative is potentially feasible from a legal, regulatory and technical perspective. The substation would be located within SDG&E fee-owned land. The 230/12-kV substation could be constructed within the parcel without requiring additional ROW or easements.

Lessened Environmental Impacts
Alternative 1 would avoid construction of a new 5-mile-long power line between the proposed substation and Miguel Substation. A summary of the significant environmental impacts of the proposed project that would be reduced with implementation of Alternative 1 include:

- Impacts to biological resources within the transmission corridor because no poles would be installed and no construction or maintenance would be required north of Hunte Parkway; therefore, all sensitive habitats and species within the transmission corridor would be avoided.
- Impacts to significant cultural resources within the transmission corridor because no poles would be installed and no construction or maintenance activities would be required north of Hunte Parkway; therefore, all significant cultural resources within the transmission corridor would be avoided
- Construction noise impacts at residences near the transmission corridor and staging yards because helicopters would not be required, and new power lines and power poles would be avoided in proximity to homes
- Recreation impacts because temporary trail and recreational area closures and detours within the transmission corridor would be avoided

Potential Greater or New Environmental Impacts
Alternative 1 would result in greater visual impacts at the proposed substation site. The 230/12-kV substation would be larger and taller than the proposed substation, resulting in a greater impact to views from Hunte Parkway and from trails in the Otay Valley Regional Park and Otay Open Space Preserve. The larger substation would necessitate more grading in the area, resulting in potentially greater impacts to geology and hydrology in the vicinity of the substation. The larger substation would have a longer construction timeframe and could result in greater air quality emissions and greater noise impacts on residents located near the substation site.

4.3.2 Alternative 2: 69/12-kV Substation and Generation at Border and Larkspur Electric Generating Facilities

Description
Alternative 2 would involve construction of a 69/12-kV substation at the proposed Salt Creek Substation site. The substation configuration would be identical to the proposed project. This alternative would also include loop-in of TL 6910 in the same configuration as the proposed project. This alternative does not involve installation of a new 69-kV power line along the existing ROW. System reliability would be maintained through additional energy generation at the existing Calpeak Power – Border electric generating facility (Border) and the Larkspur Energy Facility (LEF) during periods of peak demand for electricity.

The Border power plant (Figure 4.1-3) is a simple-cycle peaking electric generation facility consisting of one FT8 Pratt & Whitney Twinpac, with two natural gas turbine engines and one 49.5 MW generator. The Border facility is located in the Otay Mesa area of the City of San Diego in San Diego County, California.

The LEF is a simple-cycle, dual fueled peaking electric generation facility consisting of two GE LM6000 natural gas turbine engines generating 90 MW. The LEF is located at the corner of Harvest Road and Otay Mesa Road located in the City of San Diego, San Diego County, California (Figure 4.1-3).

Both peak generation resources at Border and LEF are currently under contract to sell power to SDG&E. The number of peaking units that would be required to implement Alternative 2 and the estimated total number of megawatt-hours per year (MWh/yr) that would be generated at the units is presented by year in Table 4.3-1. The required MWh/yr under Alternative 2 was estimated by first modeling the total power generated at the Border and LEF units under (i) the proposed project scenario (three lines into Salt Creek Substation) and (ii) the Alternative 2 scenario (two lines into Salt Creek Substation). Because SDG&E would purchase power generated at Border and LEF even with the proposed project, the number of MWh/yr required for Alternative 2 is the difference between the total Border and LEF power generation under the proposed project scenario and the Alternative 2 scenario. The MWh/yr required for Alternative 2 was estimated for a period of 10 years following construction of the substation. A 10-year planning horizon was used in this analysis because energy planning typically uses a 10-year

Table 4.3-1 Power Generation at Border and LEF

Year	Estimated MWh/yr
2017	212.4
2018	226.3
2019	239.6
2020	252.0
2021	264.2
2022	276.1
2023	287.7
2024	298.9
2025	313.1
2026	328.0
2027	343.5

Source: SDG&E 2015a

horizon. It would be speculative to forecast loading and electric generation requirements more than 10 years after substation construction due to uncertainties in, among other factors, future area development, energy conservation technology, and generation of distributed renewable energy beyond a 10-year planning horizon.

The electric generating facilities are permitted for operation by the SDAPCD. The LEF is permitted for 5,950 hours per year (approximately 248 days) and can run for 24 hours per day (Wildflower Energy LP 2001), yielding an annual total of 535,500 MWh/yr. The Border facility is permitted for 8,760 hours per year, i.e., 24 hours a day 7 days a week year-round, and produces 433,620 MWh/yr. (CEC 2001). SDG&E currently uses 2,600 to 3,200 MWh/yr from each facility. The additional power production at Border and LEF for Alternative 2 represents less than 0.04 percent of the permitted capacity of the generating facilities and approximately 7 additional hours of additional generation each year. Both facilities are well below their permitting capacity and the additional power generation would not exceed the permitted capacity.

Rationale for Full Analysis

Project Objectives

The 69/12-kV substation with generation at Border and LEF would meet all three project objectives defined by the CPUC CEQA Team. Alternative 2 would not construct a third 69-kV circuit into the proposed substation. The alternative would involve less redundancy in power sources to the substation and would potentially be less reliable if a fault were to occur on the existing 69-kV line (TL 6910 and proposed TL 6964). However, this alternative meets all of the CPUC project objectives.

Feasibility
This alternative is potentially feasible from a legal, regulatory and technical perspective.

Lessened Environmental Impacts
Similar to Alternative 1, Alternative 2 would avoid construction of a 69-kV power line within the transmission corridor and would avoid all impacts associated with construction of the power line. Refer to Section 4.3.1: Alternative 1, Lessened Environmental Impacts, for a summary of the environmental impacts that may be reduced as a result of not installing a new 69-kV power line.

Potential Greater or New Environmental Impacts
The alternative would not result in any new significant impacts relative to the proposed project. The alternative would require construction of the proposed substation, 69-kV loop-in, and 12-kV distribution circuits in the same manner and configuration as the proposed project. The use of generation at Border and LEF would result in additional air quality and GHG emissions during operation and maintenance relative to the proposed project; however, this increase in emissions would be less than significant. SDG&E is currently purchasing power generated at both Border and LEF and would continue to purchase power from these facilities even if the proposed project were constructed. Alternative 2 would result in an estimated 2 to 3 percent increase in SDG&E's use of power from these facilities relative to the proposed project and would represent 0.03 percent of the permitted generating capacity for the facilities. The increased power generation in 10 years as a result of Alternative 2 is equivalent to approximately seven hours of additional run time at any one of the generating facilities.

4.3.3 Alternative 3: 69/12-kV Substation and Underground 69-kV Power Line within Public ROW

Description
Alternative 3 involves construction of a 69/12-kV substation at the proposed Salt Creek Substation site. The substation configuration is identical to the proposed project. This alternative also includes loop-in of TL 6910 in the same configuration as the proposed project. Alternative 3 would build a new underground 69-kV power line within public roads and easements to the proposed substation.

The proposed 69-kV line would be overhead within the Miguel Substation in the same configuration as the proposed project. At the edge of the Miguel Substation, the power line would transition underground via a cable pole. The line would then be routed underground in public roads via Mountain Miguel Road south to Proctor Valley Road, Proctor Valley Road east to Hunte Parkway, and Hunte Parkway south to the 69/12-kV substation. Refer to Figure 4.1-4 for the location of the underground alignment.

The underground cable would be approximately 6 miles long within public roads. Construction of the underground cable would require an open trench installation of the duct package and vaults. Approximately 30 vaults would be required along the underground line. The trench for

installation of the duct package would be approximately three feet wide and six feet deep or more (depending on the location of other utilities) within a 16-foot-wide work area. Vaults would require a work space approximately 30 feet wide. Open trench construction typically requires excavation and haul away of soils followed by the delivery of concrete and other backfill materials. Trench construction and vault placement requires street delineation and traffic interruptions. The work area would be contained within one traffic lane. SDG&E would implement temporary lane or road closures as necessary during construction to route traffic around the work areas. Construction of the underground line would last approximately 10 to 13 months.

Rationale for Full Analysis

Project Objectives
Alternative 3 would meet all of the CPUC objectives of the proposed project by constructing a new substation and a new power line between the proposed substation and Miguel Substation.

Feasibility
Alternative 3 is potentially feasible from a legal, regulatory and technical perspective. If utilities are present within the proposed construction area, the trench depth may need to be shallower or deeper to avoid the utilities.

Lessened Environmental Impacts
Alternative 3 would avoid construction of a 69-kV power line along the existing ROW. As a result, the alternative would avoid use of helicopters for stringing the power line and associated noise impacts during power line construction. The underground line would also avoid potential conflicts with utilities located in the transmission corridor. Visual impacts would be minimized compared to the proposed project because the 69-kV power line would be installed underground.

Potential Greater or New Environmental Impacts
Alternative 3 would underground a 69-kV power line within public roads and easements. Environmental impacts that may be greater for Alternative 3 than those of the proposed project include:

- Noise impacts along Mountain Miguel Road, Proctor Valley Road, and Hunte Parkway due to use of equipment for underground power line construction
- Air quality and GHG emissions impacts from greater ground disturbance and more exhaust and dust generation over a longer period of time due to undergrounding
- Impacts to traffic and emergency access from lane closures and detours required during construction along Mountain Miguel Road, Proctor Valley Road, and Hunte Parkway
- Impacts to geology and soils from greater ground disturbance of undergrounding the power line

4.4 ALTERNATIVES ELIMINATED FROM EIR CONSIDERATION

As discussed in Section 3.2, alternatives were assessed for their ability to reasonably achieve the basic CPUC project objectives and reduce the significant environmental impacts of the proposed project. Their technical, legal, and regulatory feasibility were also evaluated separately from the environmental criteria. The environmental criteria considered whether the alternative would reduce the significant environmental impacts of the proposed project without substantially increasing or creating new significant environmental impacts. Based on these screening criteria, 15 alternatives were eliminated from EIR consideration. The rationale for elimination of each alternative is presented below. See Table 4.1-1 for a summary of the feasibility screening results, including environmental parameters.

The descriptions in Sections 4.4.1 through 4.4.15 provide further rationale for elimination of each of the substation site alternatives.

4.4.1 Alternative 4: 69/12-kV Substation and Double-Circuit Power Line within SDG&E ROW

Description

Alternative 4 would include constructing a 69/12-kV substation in the same location as the proposed project and rebuilding the existing 69-kV TL 6910 and converting it to a double-circuit line, which would eliminate the need for a new 69-kVpower line. The rebuilt line would be built adjacent to the location of the existing TL 6910 line between the proposed substation and Miguel Substation due to clearance requirements and constraints within the transmission corridor. Existing wood poles and H-frame structures would be replaced with tubular steel poles (TSPs) to accommodate the additional loading. The rebuilt line would require more engineered foundation poles that are wider at the base than the directly embedded poles that are primarily used in the proposed project. The new TSPs would be slightly taller (approximately 6 feet) than the existing wood poles to accommodate the double circuit.

Construction would involve:

- Installing the new double circuit foundations and poles;
- Transferring the existing TL 6910 conductor to the new poles to allow the line to be put back into service during construction;
- Removing the existing TL 6910 structures;
- Stringing the new TL 6965 conductor; and
- Reconductoring TL 6910 as necessary.

Installation of the new line would require lengthy outages on TL 6910, which could cause generation load curtailment. The construction process would take longer than the proposed project because of the additional steps required to transfer, remove, and replace the existing TL 6910 conductor and structures and because SDG&E would need to avoid construction during high loading when outages on TL 6910 are not possible. Maintenance of this alternative would likely require deenergization of both the TL 6910 and TL 6965 circuits.

Evaluation

Project Objectives
Alternative 4 would meet all of the objectives of the proposed project by constructing a new substation and a new power line between the proposed substation and Miguel Substation.

Feasibility
The double-circuit power line would be potentially feasible from a legal and regulatory perspective because it would construct the new power line within SDG&E transmission corridor and would not require new ROW or easements. The alternative would be technically feasible, but would require TL 6910 to be de-energized during construction of the new power line.

Lessened Environmental Impacts
Alternative 4 would reduce potential hazards by constructing the power line away from high pressure gas pipelines. Alternative 4 would avoid the risk of accidental rupture of the gas pipelines because the alternative foundations would be constructed approximately 80 feet away from the high-pressure gas pipelines.

Potential Greater or New Environmental Impacts
Alternative 4 would result in the following greater impacts:

- Aesthetics – the use of more large foundation poles along the alignment could result in greater aesthetic impacts than the proposed project in some areas
- Air quality and greenhouse gases – the increased duration and intensity of construction equipment activity required to construct the new poles and remove the existing poles would result in increased air quality and greenhouse gas emissions
- Cultural resources – the alternative alignment would impact a cultural resource within the alternative project alignment that would be avoided by the proposed project alignment
- Noise – the increased duration of construction at each pole and increased construction schedule would result in greater noise impacts to sensitive receptors. The alternative would also locate the line closer to residences and office space than the proposed project.

Rationale for Elimination

Alternative 4 would reduce significant impacts from hazards associated with construction near a fuel pipeline, but would result in greater environmental impacts than the proposed project. The alternative would also locate the power line closer to residences and offices (approximately 15 feet away from residences) than the proposed project.

4.4.2 Alternative 5: Expand Existing Area Substations to Increase Capacity

Description

Alternative 5 would expand existing area substations to increase local capacity, and possibly transfer load between different substations. Major components of this alternative are as follows:

- Install new transformers and associated equipment;
- Acquire land to increase size of existing substations and provide the necessary space for new equipment;
- Rebuild existing 69-kV circuits, converting them to double-circuit lines; and
- Install new underground duct and structure system throughout the area to carry new distribution circuits.

Evaluation

Project Objectives
Alternative 5 does not meet the basic project objectives because it would not meet the area's long-term electric distribution capacity, and would not reduce loading on area substations to optimum operating conditions.

Feasibility
Alternative 5 is potentially feasible from a legal, regulatory and technical perspective; however, Telegraph Canyon Substation is fully built out and could not be physically expanded because it is surrounded by commercial development. Proctor Valley Substation could be expanded from two transformers to four transformers, but the physical dimensions of the substation pad are limited because the substation is surrounded by dedicated open space areas to the north that are part of the San Miguel Ranch development.

Lessened Environmental Impacts
Alternative 5 would reduce the impacts associated with constructing the substation and new power line. Reduced impacts include:

- Aesthetics – work would be conducted on existing SDG&E facilities and would avoid the aesthetic impacts of the substation and power line
- Biological and cultural resources – the alternative would be constructed in disturbed areas and would avoid impacts from construction of a new substation and new power line
- Hydrology and geology – new land disturbance would be minimized by the alternative because the majority of construction would be on existing structures; the grading and earthwork required for constructing a new substation would be avoided
- Utilities and hazards – the alternative would avoid potential conflicts with utilities including gas pipelines within the transmission corridor

Potential Greater or New Environmental Impacts
Alternative 5 would not result in any greater or new environmental impacts relative to the proposed project.

Rationale for Elimination

Alternative 5 would provide a temporary solution to capacity limits, but it would not satisfy the need for an additional substation to meet the demand of planned development. This alternative

does not meet the objective of meeting the area's projected long-term electric distribution capacity needs, nor does it reduce loading on area substations to optimum operating conditions.

4.4.3 Alternative 6: 69/12-kV Substation, Loop-In TL 6910 and Reconductor Five Additional Power Lines

Description

Alternative 6 would require construction of a 69/12-kV substation in the same manner as the proposed project. Alternative 6 would loop-in the existing 69-kV TL 6910 and require line upgrades, including rebuilding and reconductoring five different power lines (approximately 25 miles), to meet system operating criteria as an alternative to constructing TL 6965. Rebuilding and reconductoring would involve replacing existing conductors and support structures and reinforcing existing power lines.

Evaluation Criteria

Project Objectives

Alternative 6 would meet all project objective criteria by constructing a new 69/12-kV substation and reconductoring power lines to meet system operating criteria.

Feasibility

Alternative 6 is potentially feasible from a legal, regulatory and technical perspective.

Lessened Environmental Impacts

Alternative 6 would reduce the impacts associated with construction of TL 6965 within the transmission corridor. Potentially reduced impacts include:

- Cultural resources – avoidance of impacts to cultural resources within the TL 6965 transmission corridor
- Noise – avoidance of noise impacts to homes along the transmission corridor and schools near TL 6965 work areas
- Utilities and hazards – avoidance of potential conflicts with utilities in the transmission corridor and hazards from construction near a high pressure gas pipeline.

Potential Greater or New Environmental Impacts

Alternative 6 would potentially result in increased environmental impacts to:

- Air quality and greenhouse gases – greater air quality impacts and greenhouse gas emissions associated with reconductoring and reconstructing 25 miles of power lines compared to the 5 miles of new power line for the proposed project
- Biological resources – greater impacts to biological resources due to the greater length of the work area, which would result in more temporary and permanent impacts at construction locations
- Cultural resources – potential for greater impacts to cultural resources due to ground disturbance for an additional 20 miles of new line for reconductored and

rebuilt power lines compared to the 5 miles of new power line for the proposed project

- Geology, soils, and hydrology – increased ground disturbance and potential erosion associated with construction impacts along the 25 miles of reconductored and rebuilt power lines
- Noise – increased noise during construction along the 25 miles of reconductored and rebuilt power lines
- Utilities – greater potential for service disruption during reconductoring and rebuilding of existing power lines due to increased length of the Alternative relative to the proposed project.

Rationale for Elimination

In comparison to the 5 miles of new power line for the proposed project, Alternative 6 would result in greater effects to residents throughout the region by approximately 25 miles of new power line improvements. Therefore, this alternative was eliminated from further consideration.

4.4.4 Alternative 7: Future East Urban Center

Description

The Future East Urban Center substation site would be located on the east side of SR-125 south of Birch Road (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the Future East Urban Center site. The alternative includes a new 69-kV power line from Miguel Substation via the transmission corridor to Hunte Parkway and along Hunte Parkway to the Future East Urban Center site and a loop-in of TL 6910.

Evaluation Criteria

Project Objectives

Alternative 7 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 7 would be potentially feasible from a regulatory and legal perspective. Alternative 7 is not technically feasible due to the current residential and commercial development of the site.

Lessened Environmental Impacts

Alternative 7 would not reduce environmental impacts relative to the proposed project. The new substation site and longer power line would require more grading. The location of the new substation and the power line would have increased visibility.

Potential Greater or New Environmental Impacts

Alternative 7 would result in potentially greater impacts to aesthetics from SR-125 and greater impacts to air quality, biological, cultural, geology and soil, and hydrology resources due to the

increased length of new 69-kV power line and TL 6910 loop-in that would be required to deliver power to the substation.

Rationale for Elimination

The Future East Urban Center site is currently undergoing residential and commercial development as part of the City of Chula Vista-approved Millennia project. Development of a substation within the Future East Urban Center site would be technically infeasible due to the on-going residential and commercial development within the site.

Development at the Future East Urban Center could result in greater impacts to aesthetics from SR-125. Construction of a longer power line along Hunte Parkway and through undeveloped areas to the Future East Urban site could result in greater impacts to air quality, biological resources, cultural resources, geology and soils, and hydrology. The Future East Urban substation site was also not carried forward for full EIR analysis because the alternative would not reduce any significant environmental impacts of the proposed project.

4.4.5 Alternative 8: Village 9

Description

The Village 9 substation site would be located on the east side of SR-125, southeast of the proposed Future East Urban Center substation site discussed above (refer to Figure 4.1-1). Village 9 would be located south of the future Hunte Parkway extension and proposed Millenia subdivision. This alternative would involve construction of a new 69/12-kV substation within the Village 9 substation site. The alternative includes loop-in of TL 6910 and a new 69-kV power line from Miguel Substation via the transmission corridor to Hunte Parkway and along Hunte Parkway to the Village 9 site.

Evaluation Criteria

Project Objectives

Alternative 8 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 8 is potentially feasible from a legal, regulatory and technical perspective.

Lessened Environmental Impacts

Alternative 8 would not reduce environmental impacts relative to the proposed project because it would involve building the new substation in a more visible area and would require a longer power line to connect to the transmission corridor. Impacts within the transmission corridor would be the same as for the proposed project.

Potential Greater or New Environmental Impacts

Alternative 8 would result in potentially greater impacts to aesthetics from SR-125 and greater impacts to aesthetics, air quality, biological, cultural, geology and soil, and hydrology resources due to the increased length of new 69-kV power line and TL 6910 loop-in that would be

required to deliver power to the substation. The longer power line would require a longer duration and/or intensity of construction. Alternative 8 would potentially result in increased environmental impacts to:

- Aesthetics – The Village 9 site is directly adjacent to SR 125 and a substation at this site may be visible from the highway
- Air quality – The longer power line would require more construction equipment, which would increase emissions
- Biology – The longer power line would result a larger work area and more temporary impacts to habitat at construction locations
- Cultural resources – The longer power line could impact additional cultural resources
- Geology, soils, and hydrology – increased ground disturbance and potential erosion associated with construction impacts along the longer power lines.

Rationale for Elimination

The Village 9 substation site would be located in an undeveloped area with no existing access to a public ROW. Development at the Village 9 site could result in greater impacts to aesthetics from SR-125. Construction of a longer power line along Hunte Parkway and through undeveloped areas to the Village 9 site could result in greater impacts to air quality, biological resources, cultural resources, geology and soils, and hydrology resources. The alternative would not reduce any significant environmental impact resulting from the project. The Village 9 substation site was not carried forward for full EIR analysis because the alternative would not reduce any significant environmental impacts of the proposed project.

4.4.6 Alternative 9: Regional Technology Park

Description

The Regional Technology Park substation site would be located on the west side of SR-125, southeast of Olympian High School (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the Regional Technology Park substation site, construction of a new 69-kV power line from Miguel Substation to the Regional Technology Park substation site, and loop-in of TL 6910.

Evaluation Criteria

Project Objectives

Alternative 9 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 9 is potentially feasible from a legal, regulatory and technical perspective; however the site is not located near existing power lines or a utility corridor.

Lessened Environmental Impacts
Alternative 9 would not reduce environmental impacts relative to the proposed project. This alternative would still require construction of a new substation on a sloped site directly adjacent to a high school and within view of SR 125. This substation location would involve construction of a much longer power line than the proposed project because the substation site is not located near a utility corridor.

Potential Greater or New Environmental Impacts
Alternative 9 would potentially result in increased environmental impacts to:

- Aesthetics – the substation would be visible to motorists on SR-125 resulting in impacts to a much larger number of viewers than the proposed project
- Air quality and greenhouse gases – greater air quality impacts and greenhouse gas emissions associated with the longer power line required to connect to the substation site
- Biological and cultural resources –potentially greater impacts to cultural and biological resources associated with the longer power line required to connect to the substation site
- Hazards – increased hazards from construction of the substation and use of hazardous substances near East Hills Academy and Olympian High School
- Noise –greater noise impacts to schools.

Rationale for Elimination

The Regional Technology Park substation site would be located in an undeveloped area with no access to a public ROW. The alternative would also locate a substation and power line approximately 150 feet from the East Hills Academy and Olympian High School. The proximity to public schools is a concern that was raised by the public during scoping. The Regional Technology Park substation site would be much closer to a public school than the proposed project. This alternative would also require construction of a longer power line from Miguel Substation to the proposed substation. The longer power line would have a greater potential for environmental impacts to noise, biology, cultural resources, air quality, and greenhouse gases due to the increased ground disturbance from constructing a longer power line. The Regional Technology Park substation site was not carried forward for full EIR analysis because the alternative would not reduce any significant environmental impacts of the proposed project.

4.4.7 Alternative 10: 300 Meters South of Hunte West

Description

The potential substation site 300 meters south of the Hunte West site is shown on Figure 4.1-1. Alternative 10 would involve construction of a new 69/12-kV substation within a site 300 meters south of the proposed substation site and construction of a new 69-kV power line from Miguel Substation to the substation site within the transmission corridor. This alternative was suggested by the public during the scoping process for the EIR. The commenter requested

consideration of a substation site approximately 300 meters south of the proposed substation location to increase the distance between the substation and High Tech schools.

The CPUC considered the area 300 meters directly south of Hunte Parkway and determined that it would not meet the regulatory or technical feasibility criteria. The area directly south of the proposed substation site includes Salt Creek and sensitive riparian habitat that is also subject to flooding. Much of the land further south of the substation site is Preserve land and cannot be developed for a substation. CPUC identified a suitable alternate location in an upland area approximately 300 meters southwest of the proposed substation site. This is the location of the Alternative 10 substation.

Evaluation Criteria

Project Objectives
Alternative 10 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility
Alternative 10 is potentially feasible from a legal, regulatory, and technical perspective.

Lessened Environmental Impacts
Alternative 10 would not reduce environmental impacts of the proposed project. This alternative would still require construction of a new substation and power line near the proposed substation site. Alternative 10 would result in greater impacts to aesthetics, biological resources, geology, soils and hydrology, hazards, and noise would be greater, as described below.

Potential Greater or New Environmental Impacts
Alternative 10 would potentially result in increased environmental impacts to:

- Aesthetics – the substation would be highly visible from Hunte Parkway and residential areas north of Hunte Parkway because despite being set back from the road, views of the substation would not be blocked by the topography
- Biological resources – construction of the power line and TL 6910 loop-in would require crossing the Salt Creek riparian corridor with potentially greater impacts to biological resources within the corridor
- Geology, soils and hydrology – more grading and potential for erosion and impacts to water quality due to construction on a steeply sloped site
- Hazards – increased hazards due to construction and the use of hazardous substances near a school
- Noise – increased noise impacts to schools from construction of the substation
- Recreation – the substation would be located closer to Regional Trails and would have greater impacts on the value of the regional trails in the open space area south of the substation

Rationale for Elimination

A substation site 300 meters southwest of the proposed substation site would be located on highly variable terrain and would be located closer to High Tech schools than the proposed substation. Grading a substation site and constructing access to the site could result in greater construction-period impacts to aesthetics because the site would be easily visible from Hunte Parkway. A substation at the site would also have greater operation impacts to aesthetics, air quality, biological resources, greenhouse gases, hydrology, and geology and soils, and would not reduce any environmental impacts identified for the proposed project. The substation site 300 meters southwest of the proposed substation site was not carried forward for full EIR analysis because the alternative would not reduce any significant impacts of the proposed project.

4.4.8 Alternative 11: Hunte East

Description

The Hunte East substation site would be located in the east corner of the junction of the existing ROW and Hunte Parkway (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the Hunte East site. A new 69-kV power line would be constructed from Miguel Substation to the Hunte East substation site through the transmission corridor. The power line would follow the alignment used for the proposed project to Hunte Parkway. The power line would connect to the Hunte East substation south of Hunte Parkway. A new loop-in of TL 6910 would also be required.

Evaluation Criteria

Project Objectives

Alternative 11 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

The Hunte East substation site is potentially feasible from a legal, regulatory, and technical perspective.

Lessened Environmental Impacts

The Alternative 11 substation location would not reduce any environmental impacts relative to the proposed project. The Hunte East substation site is closer to residences than the proposed site and would be located within the MSCP Preserve.

Potential Greater or New Environmental Impacts

Alternative 11 would result in greater impacts to biological resources, including loss of habitat due to construction of the project in the MSCP Preserve.

Rationale for Elimination

The Hunte East substation site was eliminated from further consideration because the majority of the site would be located within an MSCP Preserve. Development of a substation in the City MSCP Preserve would result in greater impacts to biological resources. The Hunte East

substation site was not carried forward for full EIR analysis because the alternative would not reduce any significant environmental impacts of the proposed project.

4.4.9 Alternative 12: McMillan Eastern Urban Center

Description

The McMillan Eastern Urban Center substation site would be located east of SR-125 and south of Birch Road (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the McMillan Eastern Urban Center substation site, construction of a new 69-kV power line from Miguel Substation to the McMillan Eastern Urban Center substation site, and loop-in of TL 6910.

Evaluation Criteria

Project Objectives

Alternative 12 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 12 is potentially feasible from a regulatory and legal perspective but is not technically or economically feasible. The substation site is currently undergoing residential and commercial development. SDG&E could not build the substation on land that is currently being developed with other structures. SDG&E may be able to purchase the land from the developer but the cost would make this alternative economically infeasible.

Lessened Environmental Impacts

Location of a substation within the McMillan East Urban site would potentially reduce aesthetic and biological resources impacts associated with substation construction because the substation would be located near a commercial area and would be similar to land uses to the north of the site.

Potential Greater or New Environmental Impacts

The substation location would result in greater land use impacts due to conflicts with the residential subdivision that is currently being constructed at the site. The extension of the power line to the substation site would require a longer construction period with additional use of heavy equipment. The increase in intensity and duration of heavy equipment operation could result in increased transportation, air quality, greenhouse gas, and noise impacts from the additional length of the power line outside of the transmission corridor.

Rationale for Elimination

The McMillan Eastern Urban Center substation site would be located in an area that is currently undergoing residential and commercial development as part of the City-approved Millennia project. Due to the current residential and commercial development within the site, development of a substation would be technically infeasible. This alternative substation site was not carried forward for full EIR analysis because it would not be technically feasible.

4.4.10 Alternative 13: Baldwin Offer

Description

The Baldwin Offer substation site would be located on the eastern side of the existing ROW, approximately half a mile east of High Tech Elementary (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the Baldwin Offer substation site and construction of a new 69-kV power line from Miguel Substation to the Baldwin Offer site.

Evaluation Criteria

Project Objectives

Alternative 13 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 13 is potentially feasible from a legal, regulatory, and technical perspective.

Lessened Environmental Impacts

Alternative 13 would not reduce any environmental impacts relative to the proposed project because it would construct a substation in an MSCP Preserve while requiring a longer power line.

Potential Greater or New Environmental Impacts

Alternative 13 would result in greater aesthetic, biological resources, and recreational impacts due to the location of the project in MSCP Preserve near City designated trails and the City greenbelt system. The substation location would require an approximately 0.5 mile longer power line because the substation would be located south of the proposed project substation. The additional power line construction would result in greater air quality and greenhouse gas impacts due to increased construction duration and heavy equipment operation.

Rationale for Elimination

The Baldwin Offer substation site would be located within the City MSCP Preserve and, as a result, would pose greater impacts to biological resources. The substation location would require construction of a longer power line from Miguel Substation to the proposed substation. Grading the longer power line could result in greater impacts to biological resources, air quality and greenhouse gases, due to increased ground disturbance and equipment activity. The alternative would not reduce any environmental impacts and would not meet the environmental criteria under CEQA. This alternative substation site was not carried forward for full EIR analysis because it would substantially increase biological resource impacts in the MSCP Preserve and would not reduce any significant environmental impacts of the proposed project.

4.4.11 Alternative 14: Discovery Falls

Description

The Discovery Falls substation site would be located west of Discovery Falls Road and south of Hunte Parkway, southwest of the High Tech schools (refer to Figure 4.1-1). This alternative would involve construction of a new 69/12-kV substation within the Discovery Falls substation site and construction of a new 69-kV power line from Miguel Substation to the Discovery Falls substation site.

Environmental Criteria

Project Objectives

Alternative 14 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

The Discovery Falls site is located within an area designated for development. Additional planning would be required to evaluate the technical, legal, and regulatory feasibility of constructing a new power line to connect to the substation site. SDG&E could file for the necessary easements required for the overhead transmission line. Alternatively, SDG&E could construct the line in the public ROW or underground the transmission line within Hunte Parkway.

Lessened Environmental Impacts

Alternative 14 would not reduce any environmental impacts relative to the proposed project. This alternative would still require construction of a new substation near the High Tech schools and would have similar impacts as the proposed substation. A longer power line would be required in order to connect the substation to the utility corridor. The longer power line would increase construction impacts.

Potential Greater or New Environmental Impacts

Alternative 14 would potentially result in increased environmental impacts to:

- Aesthetics – increased visibility because the substation would not be screened by topography from Hunte Parkway
- Air quality and greenhouse gasses – greater emissions of air pollutants and greenhouse gasses because the power line would be longer than the proposed project
- Biological and cultural resources – greater impacts on biological and cultural resources from construction of a longer power line
- Geology, soils, and hydrology – increased ground disturbance and potential erosion associated with construction of a longer power line
- Hazards – increased hazards due to construction of the substation and the use of hazardous substances near schools during construction
- Noise – increased noise impacts on schools from construction of the substation directly adjacent to a school.

Rationale for Elimination

The Discovery Falls substation site would be located in an undeveloped area with no access to a public ROW. The site would also locate a substation and power line approximately 150 feet from High Tech schools. The proximity to public schools is a concern that was raised by the public during scoping. This alternative substation site would be much closer to a public school than the proposed project. This alternative would also require construction of a longer power line from Miguel Substation to the proposed substation. The longer power line would have a greater potential for environmental impacts to aesthetics, biological resources, cultural resources, air quality, greenhouse gases, geology, soils, and hydrology, hazards, and noise due to the increased ground disturbance from constructing a longer power line. This alternative substation site was not carried forward for full EIR analysis because it would not reduce any significant environmental impacts from the proposed project.

4.4.12 Alternative 15: Olympic Parkway and State Route 125 Parcel

Description

The Olympic Parkway and State Route 125 parcel is located north of Olympic Parkway and west of SR-125. The parcel is roughly bounded by Santa Rosa Drive to the west, SR-125 to the east, Parker Mountain Drive to the south, and a trail extending from Weber Creek Drive to the north (refer to Figure 4.1-1). This alternative would involve constructing a new 69/12-kV substation within the Olympic Parkway and SR-125 parcel substation site and constructing a new 69-kV power line from Miguel Substation to the site. The power line would be primarily located within the transmission corridor; approximately 1,000 feet between the substation parcel and the transmission corridor would be located on private land.

Environmental Criteria

Project Objectives

Alternative 15 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility

Alternative 15 would be potentially legally and technically feasible, but would not be feasible from a regulatory and economic perspective because it would conflict with current plans for expansion of a reservoir operated by the Otay Water District. The Otay Ranch General Development Plan identifies a goal of ensuring an adequate water supply for the Otay Ranch area and states that additional water storage facilities would be required to meet this goal. SDG&E may be able to purchase the property rights causing relocation of the water storage facility; however, the cost would be economically infeasible. It would therefore be infeasible to obtain the property rights to construct the substation at the Olympic Parkway and State Route 125 site.

Lessened Environmental Impacts

Alternative 15 would reduce biological, hydrology and geology impacts by locating the substation on a previously disturbed, graded site. The location would reduce aesthetic impacts

by locating the substation in an area that is not visible from public areas (e.g., roadways, parks, trails). The location would also reduce conflicts with utilities and potential hazards from rupture of a pipeline by avoiding the segment of power line adjacent to the gas pipelines.

Potential Greater or New Environmental Impacts
Alternative 15 would result in greater land use, hazards and hazardous materials, and transportation and traffic impacts by locating the substation within an area that is proposed for expansion of a water reservoir and adjacent to residences. The only access to the site is through a residential subdivision or near an existing water storage facility. Construction traffic, including transport of heavy equipment and hazardous materials on narrow residential roadways may cause traffic delays and safety issues.

Rationale for Elimination
The Olympic Parkway and State Route 125 substation site was not carried forward for full EIR analysis because the Otay Water District proposes to construct a new reservoir on the site, which is consistent with the Otay Ranch General Development Plan. Due to the planned reservoir development within the site, development of a substation would be infeasible from a regulatory and economic standpoint due to the cost and regulatory hurdles to obtain the property rights.

4.4.13 Alternative 16: 69/12-kV Substation and Underground 69-kV Power Line within SDG&E ROW

Description
This underground alternative involves constructing a new 69-kV power line within the existing transmission corridor between Miguel Substation and the proposed Salt Creek Substation. The alternative also involves construction of a new 69/12-kV substation at the proposed Salt Creek Substation site and loop-in of TL 6910 in the same configuration as the proposed project.

The 69-kV line would be installed in underground conduit located within the same alignment as the proposed project power line. Construction of the underground line would require excavation of a trench for the underground conduit and underground vaults.

Environmental Criteria

Project Objectives
Alternative 16 would meet the project objective criteria by constructing a new 69/12-kV substation and distribution circuits.

Feasibility
Alternative 16 would be potentially feasible from a regulatory perspective by locating the power line within the transmission corridor. The alternative is not technically feasible due to very steep slopes and canyons in the northern portion of the transmission corridor.

Lessened Environmental Impacts
Alternative 16 would reduce aesthetic impacts compared to the proposed project from installation of a new overhead line within the transmission corridor; however the aesthetic impacts from the power line would be less than significant.

Potential Greater or New Environmental Impacts
Underground construction would be located immediately adjacent to two high-pressure natural gas pipelines on the southern half of the line. Trenching and earthwork immediately adjacent to high pressure gas pipelines would substantially increase potential safety hazards compared to the overhead power line under the proposed project.

The underground line would result in greater impacts to biological resources, cultural resources, air quality, geology and soils, and hydrology because the underground trench would result in greater surface disturbance and impacts on habitat and significant cultural resources. Cultural resource surveys and record searches identified significant cultural resources in the transmission corridor within the alignment of the Alternative 16 underground route.

Rationale for Elimination

Construction of an underground line within the existing ROW between Mountain Miguel Road and SR-125 under Alternative 16 would be technically infeasible due to severe elevation and grade changes (e.g., steep canyons) north of SR-125 that exceed current undergrounding standards (SDG&E 2013). Alternative 16 would also result in greater environmental impacts than the proposed project. This alternative was not carried forward for full EIR analysis because it would not meet the technical feasibility criteria and would not reduce any significant environmental impact from the proposed project.

4.4.14 Alternative 17: Energy Efficiency and Conservation Programs

Description

Energy Efficiency and Conservation
Alternative 17 would implement programs to increase energy efficiency and conservation to reduce system loading and demand for power. Energy efficiency is using less energy to perform the same service or task. Energy conservation is the act of reducing or going without a service or task in order to save energy. For example, turning off a light is energy conservation; replacing an incandescent light bulb with a different type of light bulb that uses less energy to produce the same amount of light is energy efficiency. Both conservation and efficiency can reduce the amount of energy used.

Energy efficiency and conservation programs are designed to reduce customer energy consumptions. CPUC regulatory requirements dictate that supply-side and demand-side resource options should be considered on an equal basis in a utility's plan to acquire lowest cost resources. These programs are designed to either reduce the overall use of energy or to shift the consumption of energy to off-peak times. Programs can include the installation of high-efficiency appliances (e.g., efficient heating and cooling systems and energy efficient lighting),

the installation of insulation and weatherization, and customer behavior changes (e.g., customers that turn off lights more frequently because of increased customer awareness of their electrical usage).

In November 2012, the CPUC approved a two-year "bridge" budget for 2013-2014 energy efficiency programs (including residential and low income programs), as it prepared to synchronize and combine the funding cycles for energy efficiency and demand response programs starting in 2015 (DOE 2013). These programs are administered by the state's four investor-owned utilities as well as two newly formed regional energy networks (one in northern and one in southern California). Demand response programs administered by SDG&E include the Summer Saver Program and the commercial-customer Technical Assistance and Technology Incentives Program, which are designed to reduce peak electrical demand. The Summer Saver Program provides a credit on participants' summer season electric bills in return for allowing SDG&E to cycle air conditioners when needed during the months of May to September. The commercial-customer program applies to any commercial, industrial or agricultural customer with a monthly on-peak demand of 20-kilowatts or greater and provides financial incentives to off-set the costs of fully-automated demand response measures.

SDG&E also continues to deploy smart meters to existing customers and installs them on all newly constructed facilities as part of their normal business practice. Smart meters record hourly electricity consumption and allow customers to reduce their demand for higher-priced energy during peak periods. Smart meters also allow customers to participate in SDG&E's Summer Saver Program.

California Energy Efficiency and Conservation Goals

The CPUC adopted California's first Long Term Energy Efficiency Strategic Plan in September 2008, which presented a roadmap to achieve maximum energy savings in California. Updated in January 2011, the plan includes a comprehensive framework of energy savings goals and strategies through 2020 and holds energy efficiency to its role as the highest priority resource in meeting California's energy needs.

On March 8, 2003, the California Energy Commission (CEC) and CPUC approved an Energy Action Plan. On September 21, 2005, the Energy Action Plan II was finalized. The shared goal of the Energy Action Plan is to:

> Ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers.

The energy agencies intend to achieve this shared goal through specific means, including meeting California's energy growth needs while optimizing energy conservation and resource efficiency and reducing per capita electricity demand. In 2004, California enacted an energy efficiency resource standard (also called an energy efficiency portfolio standard) for electricity. Energy savings goals for the electricity sector were set for both total retail sales and peak

demand. The goals consist of separate electricity savings and demand reduction requirements for each of the three investor-owned electrical utilities.

California issued new building standards in July 2008, which mandated that all new construction reduce energy use by 15 percent, water use by 20 percent, and water for landscaping by 50 percent starting in 2010. In April 2008, the CEC approved dozens of changes to the state's building energy efficiency standards for new construction, commonly known as Title 24. In October 2007, the CPUC adopted a target that all homes built in California after 2020 be energy neutral and that all commercial buildings be energy neutral by 2030. Electric ratepayers also receive incentives for installing energy efficient solar hot water systems under the CPUC's California Solar Initiative (CSI) – Thermal Program.

The California Attorney General's office released the "Clean Energy Jobs Plan" in 2010, which proposed an action plan to develop renewable energy and energy efficiency technologies. The plan includes specific elements for developing more combined heat and power projects, making existing buildings more energy efficient, and stronger efficiency standards for new appliances and buildings.

Environmental Criteria

Project Objectives
Alternative 17 would not meet any of the objectives of the proposed project because energy efficiency and conservation programs are already considered by CAISO in the base case projections when determining project need. These programs are therefore very similar to the no project alternative described below. Energy efficiency and conservation programs would not reduce load growth to the operating capacity of the existing substations due to the large volume of new residential and commercial development in the southeast Chula Vista area.

Feasibility
Alternative 17 would be feasible from a legal, technical, and regulatory perspective.

Lessened Environmental Impacts
Alternative 17 would avoid all impacts of the proposed project. Greenhouse gas emissions and impacts to air quality would be reduced as a result of reduction of electricity generation from fossil fuels.

Potential Greater or New Environmental Impacts
Alternative 17 would not result in greater or new environmental impacts.

Rationale for Elimination

As a separate and stand-alone program, Alternative 17 does not meet the project objectives for increased reliability and increased distribution capacity. This alternative would also not meet the feasibility criteria: reductions in energy usage provided by energy efficiency and conservation would not occur at a scale that would eliminate the need for the energy delivered by the proposed project for the eastern Chula Vista service territory, and estimates for these energy use reductions are already calculated into SDG&E's transmission forecasting. SDG&E

data from 2010 to 2014 indicate that less than 1 MW is saved annually from customer participation in the Summer Saver and Technical Assistance and Technology Incentives programs. A single megawatt of reduction in annual demand is minor relative to the total annual demand of approximately 18 million MW per year in SDG&E territory. Increased program participation through the 10-year planning horizon, should it occur, would not substantially affect current or future load forecasts.

Implementation of energy efficiency and conservation programs would result in no or minimal potential environmental impacts across resource areas due to the small size and, in most cases, minimal nature of conservation activities and energy efficiency technologies. Energy efficiency and conservation would result in beneficial reductions in cumulative greenhouse gas emissions as a result of reduction of electricity generation using fossil fuels.

While this alternative would avoid all environmental impacts of the proposed project, this alternative was not carried forward for full EIR analysis because it would not meet project objectives and feasibility criteria.

4.4.15 Alternative 18: Distributed Renewable Energy Generation

Description

Distributed Renewable Energy Generation
A distributed renewable generation alternative would involve deployment of distributed generation in the form of many small renewable energy projects within the City of Chula Vista. Distributed generation is electricity production that is on-site or close to the load center that it is intended to serve. Distributed renewables refer to the use of renewable energy resources in distributed energy generation. The generating capacity of a distributed generation source is significantly smaller than those of centrally located utility-scale energy generation and can range from generation at a single residence to larger installations for commercial or multi-unit housing applications. Distributed generation is generally limited to systems less than 20 MW and could be interconnected at 16-kV distribution or sub-transmission voltages (CEC 2007).

Examples of renewable distributed renewable generation include small-scale photovoltaic, wind, biomass, and combined cooling and/or heat and power (also known as cogeneration) systems that use renewable-based fuels, as well as fuel cells produced from renewable energy resources. Distributed renewable generation does not include utility-scale photovoltaic, solar thermal, biomass, or wind energy power stations, or hydroelectric, geothermal, and non-combined heat and power-related waste-to energy systems (including digester gas, landfill gas, and municipal solid waste) as load is typically not close to generation and onsite load is negligible. Agreements such as power purchasing agreements (PPA) may be required for distributed renewables that would support existing agricultural, industrial, or commercial businesses. The businesses would likely be connected to the local power grid; however, agreements would be required to sell electricity to the utility. This approval is in addition to necessary easements or authorizations from property owners.

California Renewable Energy Goals

California Senate Bill (SB) X1-2, signed by Governor Brown in April 2011, codifies California's renewable energy goals at 33 percent by 2020. This law requires all California electricity providers to increase their procurement of eligible renewable resources to at least 33 percent by 2020, and contains interim targets of 20 percent by 2013 and 25 percent by 2016. The Renewable Portfolio Standard (RPS) Program was originally mandated in 2002 by SB 1078 (Sher, Chapter 516, Statutes of 2002) under Public Utilities Code §381, 383.5, 399.11 through 399.15, and 445.

The CPUC, in collaboration with CEC, is addressing its responsibilities in implementing the RPS through its own proceedings. On April 22, 2004, CPUC issued an Order Instituting Rulemaking to specifically address the RPS (R.04-04-026). CEC and CPUC approved an Energy Action Plan in 2003, which was finalized in 2005. The Energy Action Plan includes specific measures for building sufficient new generation, accelerating the state's goal for renewable resource generation, and promoting customer-and utility-owned distributed generation.

In January 2006, the CPUC created the CSI (CPUC ruling R.04-03-017). The initiative moved the consumer renewable energy rebate program for distributed photovoltaic systems serving existing homes and buildings from CEC to the utility companies under the direction of the CPUC. The CPUC also oversees the Self-Generation Incentive Program, which support existing, new, and emerging distributed energy systems other than photovoltaic installed on homes and buildings, including small-scale wind and fuel cells.

The CEC manages the New Solar Homes Partnership, which was launched in January 2007 and focuses on distributed photovoltaic systems targeted for new residential building construction. CEC released the Distributed Generation and Cogeneration Policy Roadmap for California in March 2007 (CEC 2007). The report included a vision for Distributed Generation and Cogeneration of being significant components of California's electrical system, meeting over 25 percent of the total peak demand. To achieve its vision, California will support incentives in the near term, transition to new market mechanisms, and reduce remaining institutional barriers.

The California Attorney General's office released the "Clean Energy Jobs Plan" in 2010 that provides possible mechanisms to create 12,000 MW of localized energy generation in California. The Clean Energy Jobs Plan calls for California to develop 12,000 MW of localized energy by year 2020. The Plan describes localized energy as onsite or small energy systems located close to where energy is consumed that can be constructed quickly (without new transmission lines) and typically with low environmental impact. The plan also encourages development of energy storage in combination with renewable generation to address intermittency of renewable generation.

Environmental Criteria

Project Objectives

Alternative 18 would not meet any of the objectives of the proposed project. The population in the service area is growing at a very fast rate. Small-scale distributed renewable energy

generation would not produce enough power to meet projected demand over the next 10 years or provide power reliably because of the intermittency of renewable energy generation.

Feasibility
Distributed renewable energy generation would be feasible from a legal, technical, and regulatory perspective.

Lessened Environmental Impacts
Alternative 18 avoids all environmental impacts of the proposed project.

Potential Greater or New Environmental Impacts
Alternative 18 could result in new impacts to air quality and greenhouse gases associated with dispersed installation of renewable energy sources. These new impacts would likely be less than the impact of the proposed project.

Rationale for Elimination

Small-scale distributed renewable generation, such as rooftop solar panels, has the potential to appreciably reduce demand on the electrical system; however, the distributed renewable energy generation industry is still a nascent industry. There are numerous institutional, industry and market barriers that have impeded the growth and adoption of the industry to date. Although the potential is recognized, distributed generation is not currently a significant energy source to meet electricity demands in the area. As of 2013, distributed generation penetration is below 10 percent of total peak demand in California (CPUC 2013). A Distributed Renewable Generation Alternative would involve deployment of small-scale renewable energy projects within the City of Chula Vista that is much more aggressive than anticipated by CAISO and SDG&E. Even if distributed generation energy supply sources in the City of Chula Vista were built, substation capacity would continue to be a limiting factor requiring additional infrastructure.

Distributed renewables typically involve small projects; therefore, potential impacts from these projects would not be significant. Implementation of renewable energy projects at the residential scale (particularly rooftop solar, which can be deployed quickly in multiple locations) can exceed the capacity of a local power grid or utility. This excess load can cause delays in bringing new distributed renewable generation to the local electric power grid, require system upgrades, and have other consequences on local circuits.

Because the potential for, and timing of, distributed renewable generation within the City of Chula Vista is uncertain and would require additional substation capacity, Alternative 17was not carried forward for full EIR analysis.