

## C. Alternatives

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of reasonable alternatives to the Project or to the location of the proposed project site that could feasibly avoid or lessen any significant environmental impacts of the Project while attaining most of the Project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter introduces and describes the alternatives to the Project that were considered. It also describes the alternatives that were initially evaluated but then eliminated from further consideration and discusses the reasons for their elimination.

The following are key provisions of the State CEQA Guidelines (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project, even if these alternatives would impede to some degree the attainment of the proposed project objectives or would be more costly.
- The No Project Alternative shall be evaluated, along with its impacts. The no project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasonable choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the proposed project need to be considered for inclusion in the EIR.
- An EIR does not need to consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in Section 15126.6(f)(1) of the State CEQA Guidelines) are environmental impacts; site suitability; economic viability; social and political acceptability; technological capacity; availability of infrastructure; general plan consistency; regulatory limitations; jurisdictional boundaries; and whether the proponent could reasonably acquire, control, or otherwise have access to an alternative site. An EIR need not consider an alternative whose effects could not be reasonably identified and whose implementation is remote or speculative and would not achieve the basic project objectives.

## C.1 Alternatives Development and Screening Process

### C.1.1 Project Summary and Objectives

The Project would primarily consist of the construction, operation, and maintenance of the new 25-mile 115 kV subtransmission line to connect the existing Valley and Ivyglen Substations and the construction of the new Fogarty Substation to provide supplementary electrical services to the City of Lake Elsinore area.

The Valley-Ivyglen Electrical Needs Area consists of the southwestern area of Riverside County, including the northern portion of the City of Lake Elsinore and the community of Glen Ivy Hot Springs. The Fogarty Electrical Needs Area is located entirely within the boundaries of the Valley-Ivyglen Electrical Needs Area, and encompasses urbanized areas within the City of Lake Elsinore and the southwestern portion of Riverside County. Construction of the proposed subtransmission line would serve the greater Valley-Ivyglen Electrical Needs Area, including the Fogarty Electrical Needs Area and would transfer load from the existing Valley-Elsinore-Ivyglen Line to the proposed Valley-Ivyglen Line (hereafter referred to as the “proposed subtransmission line”) and also act as a backup system.

The Fogarty Electrical Needs Area is currently served by the Dryden and Elsinore Substations. The Elsinore Substation is currently taxed by growth in the area and far removed from new growth associated with residential and commercial development that would be served by the Fogarty Substation. Once the Fogarty Substation is completed and operational, the Dryden Substation would be decommissioned and removed from service.

In addition to the construction of the proposed subtransmission line and Fogarty Substation, the Project includes:

- Improvements to the Valley and Ivyglen Substations to accommodate the proposed subtransmission line, including the installation of new 115 kV switching and protective equipment to terminate the proposed subtransmission line at the respective sites
- Tie-ins between the new Fogarty Substation and existing subtransmission and telecommunications lines
- Installation of a new telecommunications line alongside the proposed subtransmission line
- Transfer of distribution facilities
- Stockpiling and/or disposal of old electrical distribution line poles

The Applicant has defined the following objectives to meet the Project’s purpose and need:

- Serve projected electrical demand requirements in the Electrical Needs Area beginning in 2009.
- Provide a direct connection between the Applicant’s Valley 500/115 kV Substation and the Applicant’s Ivyglen 115/12 kV Substation.
- Increase system reliability by locating a second 115 kV subtransmission line within the Electrical Needs Area.
- Improve operational and maintenance flexibility on subtransmission lines without interruption of service.
- Maintain system reliability within the Electrical Needs Area.

- Improve operational flexibility by providing the ability to transfer load between distribution lines and substations within the Electrical Needs Area.
- Utilize the Applicant owned property for location of the project.
- Meet project needs while minimizing environmental impacts.
- Meet project needs in a cost-effective manner.

### **C.1.2 Significant Impacts of the Proposed Project**

The Project has the potential to have significant adverse effects on air quality, land use, mineral resources, and visual resources in the regional project area, even with mitigation, as briefly described in the following sections. Therefore, per State CEQA Guidelines, this chapter discusses alternatives that are capable of avoiding or substantially reducing effects on these resources.

#### **Air Quality**

Construction and operation of the Project will generate Nitrogen Oxide (NO<sub>x</sub>) and Particulate Matter (PM<sub>10</sub>) emissions that exceed the South Coast Air Quality Management District (SCAQMD) significance thresholds and would therefore have a significant impact on air quality in the South Coast Air Basin (SCAB). In addition, construction and operation of the Project would generate greenhouse gases (GHG) that exceed baseline emissions in Riverside County. The main contributors to these violations during construction and operation are employee vehicles, bore/drill rigs, cranes, backhoes, crawlers, and circuit breakers. These GHG emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and sulfur hexafluoride (SF<sub>6</sub>), will be mitigated through the purchase of carbon offsets, but will have a significant impact. Construction and operational GHG emissions will be mitigated through the purchase of carbon offsets, but will remain significant after mitigation. Although the violations of NO<sub>x</sub> and PM<sub>10</sub> could potentially be mitigated, without additional information on the on-road and off-road equipment specifications to be used during construction and operation, quantifiable reduction of these emissions based on SCAQMD guidance is unknown. In addition, even though construction emissions would be short term, the impact to air quality in the SCAB would remain significant (Class I).

#### **Land Use**

The proposed subtransmission line traverses through developed and undeveloped areas. The Project would both temporarily and permanently transform the relatively natural condition of some of the project area as it would be visible from Eligible Scenic Highways SR-74 and I-15 and would therefore conflict with one policy in the Land Use Element of the Riverside County General Plan (LU 13.5). This conflict results in a significant land use impact that could only be mitigated by placing the subtransmission line underground or relocating the line to a location that would not be visible from a Designated or Eligible Scenic Highway.

#### **Mineral Resources**

Segment W-1B of the proposed subtransmission line bisects the Pacific Clay mining facility, which is an active clay mine owned by Castle and Cooke. Construction of the Project would disrupt extraction of the clay deposits because subtransmission line poles would be constructed amidst the active mining operations. The clay deposits beneath and surrounding the poles would be removed from production and result in reduced availability of a known mineral resource. Impacts to mineral resource recovery sites would be significant and unavoidable. These significant and unavoidable impacts (Class I) would result from construction of the Project.

## Visual Resources

As with the significant and unavoidable impact to land use in the project area, the Project would both temporarily and permanently transform the relatively natural condition of some of the project area and potentially affect sensitive viewpoints for motorists and residents along Eligible Scenic Highways SR-74 and I-15. In addition, construction impacts would be noticeable to area residents and motorists along the local road system as site clearing, grading, and construction of permanent facilities would damage scenic resources, to include trees, rock outcroppings, and historic buildings within a State Scenic Highway. Although construction activities such as grading and temporary storage of construction materials are temporary, they will disrupt the unity and intactness of views and would detract from natural vivid features along the proposed subtransmission line route. The contrast of permanent development in the project area would be most notable from the intersection of Highway 74 and I-15 to the Ivyglen Substation as well as the Fogarty Substation site. In these segments, the proposed subtransmission line and Fogarty Substation would punctuate and overpower visual intactness, detract from any natural vividness, and lessen the unity of views along State Scenic Highways and ultimately significantly and unavoidably impact visual resources.

## Other Impacts of the Proposed Project

Impacts of the Project on the other resources evaluated in this EIR were found to be either less than significant or less than significant after mitigation. Therefore, alternatives to further reduce impacts on these other resources are not required by CEQA. Unless an alternative that addresses the Project's Class I impacts would cause a greater adverse impact on other resources evaluated in this EIR, no further discussion of these other resources is provided in this chapter.

## C.2 Alternatives Eliminated from Further Consideration

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (State CEQA Guidelines, Section 15126.6[c]). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (State CEQA Guidelines, Section 15126[f][2]). The Applicant considered several alternatives to reduce impacts on air quality, land use, mineral resources, and visual resources. Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration and which are infeasible. This section details which alternatives warrant further consideration, as detailed in Chapter E Comparison of Alternatives, and which alternatives were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

Table C.2-1 provides an overview of all the alternatives considered and those that were carried forward for analysis are highlighted. The table represents an overview of the alternatives screening process and the following text describes the reasons for eliminating specific alternatives from analysis.

Table C.2-1 Comparison of Alternatives to the Proposed Project

System Alternatives	Meets project objectives?	Lessens significant impacts?	Reasonable? ("Rule of Reason")	Carried forward?
<b>Valley-Ivyglen System Alternatives</b>				
VI-1 (Eliminated)	No	N/A	N/A	No
VI-2 (Eliminated)	No	N/A	N/A	No
<b>Fogarty System Alternative</b>				
F-1 (Eliminated)	No	N/A	N/A	No
<b>Consolidated System Alternatives</b>				
VIF-1 (Eliminated)	No	N/A	N/A	No
VIF-2 (Eliminated)	No	N/A	N/A	No
VIF-3 No Project ( <b>Alternative 1</b> )	No	Yes	Yes	Yes
<b>Corridor Alternatives</b>				
Middle Corridor Alternative ( <b>Alternative 2</b> )	No	No	Yes	Yes
Northern Corridor Alternative (Eliminated)	No	No	Yes	No
Southern Corridor Alternative (Proposed)	Yes	No	Yes	Yes (See below)
<b>Route Segment Alternatives of the Proposed (Southern) Corridor Alternative</b>				
Eastern Region Route Segment Alternative (Eliminated)	Yes	No	Yes	No
Central Region Route Segment Alternative ( <b>Alternative 3</b> )	Yes	Yes	Yes	Yes
Central Region Route Segment (Warm Springs-Pacific Clay Alternative, <b>Alternative 5</b> )	Yes	Yes	Yes	Yes
Western Region Route Segment Alternative A (Eliminated)	No	No	No	No
Western Region Route Segment Alternative B (Eliminated)	No	No	No	No
<b>Fogarty Substation Site Alternatives</b>				
Fogarty Substation Site Alternative A ( <b>Alternative 4</b> )	Yes	No	Yes	Yes
Fogarty Substation Site Alternative B (Eliminated)	Yes	No	No	No

## C.2.1 Valley-Ivyglen System Alternatives

Two system alternatives were evaluated to meet the forecasted electrical demand within the Valley-Ivyglen Electrical Needs Area:

- **Valley-Ivyglen System Alternative VI-1:** Upgrade the existing electrical subtransmission and distribution system including upgrades at the Glen Ivy and Elsinore Substations.
- **Valley-Ivyglen System Alternative VI-2:** Convert the Ivyglen Substation to a 66/12 kV substation and transfer it to the Mira Loma 220/66 kV System.

### Valley-Ivyglen System Alternative VI-1

This system alternative would entail at least five components. These components would include:

1. Increasing transformer capacity at the Glen Ivy 33/12 kV Substation from 5.6 MVA to 28 MVA
2. Constructing two new underground 33 kV lines from the Elsinore 115/33 kV Substation to the Glen Ivy 33/12 kV Substation
3. Reconductoring approximately 14.5 miles of the Valley-Elsinore-Ivyglen 115 kV Subtransmission Line
4. Upgrading the Glen Ivy 33/12 kV and Elsinore 115/33 kV Substations
5. Building two new 12 kV distribution lines

Increasing the transformer capacity of the Glen Ivy Substation from 5.6 MVA to 28 MVA would require the addition of two new 33 kV lines to provide the needed capacity and to meet the Applicant's reliability criteria. The 33 kV upgrades required in this alternative between the Elsinore Substation and the Glen Ivy Substation would have to be constructed in an area with multiple existing overhead lines. As a result, the new 33 kV lines would be constructed underground and require a minimum of two paths (approximately 27 miles total). The underground duct banks would require substantial excavation along the entire length of the line routes, presenting the potential for significant environmental impacts. In addition, the additional 33 kV lines would require upgrades to both the Glen Ivy 33/12 kV and Elsinore 115/33 kV Substations. These upgrades would require substation expansions and acquisition of additional real estate at the Elsinore Substation.

To accommodate the additional electrical demand, the conductors on the Valley-Elsinore section of the Valley-Elsinore-Ivyglen 115 kV Subtransmission Line would be replaced with larger conductors. Additionally, the installation of two new 12 kV distribution lines from the Glen Ivy Substation would require approximately seven miles of new construction.

This alternative does not provide a second source of power to the Ivyglen Substation and would not meet the Applicant's subtransmission reliability criteria. In addition, substantial upgrades to the existing 115 kV network would still be required within the Applicant's 10-year forecast to serve the Electrical Needs Area. The alternative provides limited potential for future growth, does not eliminate the need for an additional future 115kV subtransmission line in the Electrical Needs Area, and therefore does not meet the project objectives. This alternative is therefore eliminated from further consideration.

## Valley-Ivyglen System Alternative VI-2

This system alternative would convert the Ivyglen Substation from a 115/12 kV substation to a 66/12 kV substation and transfer it from the Valley 115 kV System to the Mira Loma 220/66 kV System. This alternative would also necessitate additional upgrades to the Mira Loma 220/66 kV System and would include the construction of three new 66 kV subtransmission lines, the reconfiguration of an existing 66 kV line, and the construction of two new 12 kV distribution lines.

Transferring the Ivyglen Substation from the Valley 115 kV System to the Mira Loma 66 kV System would require reconfiguring or rebuilding the Ivyglen Substation to accommodate the necessary equipment changes required to convert it from a 115 kV substation to a 66 kV substation. This would include replacing the existing 115/12 kV 28 MVA transformers with two new 66/12 kV 28 MVA transformers.

In order to provide the required power to the newly configured Ivyglen 66/12 kV Substation, two new 66 kV lines would be constructed from the Chase 66/12 kV Substation to the Ivyglen 66/12 kV Substation. Each new line would be approximately 7.5-miles long and would follow different line routes. A third new 66 kV subtransmission line between the Chase and Jefferson substations would be needed as well. As a result of this added electrical demand on the Mira Loma 220/66 kV System, additional system upgrades would be necessary. New electrical facilities at the Mira Loma, Chase, and Jefferson Substations would require additional subtransmission line positions as well as circuit breakers and other associated equipment.

This alternative meets the Project Objectives for serving projected load, increasing system reliability, and improving subtransmission operational flexibility. However, converting the Ivyglen Substation from 115 kV to 66 kV would require that the existing Valley-Elsinore-Ivyglen 115 kV Subtransmission Line be de-energized for an extended period of time without another source of electricity. In addition, this alternative provides limited potential for future growth and does not eliminate the need for an additional future 115 kV subtransmission line in the Electrical Needs Area, which could also result in significant environmental impacts. This alternative is therefore eliminated from further consideration.

## C.2.2 Fogarty System Alternative

One system alternative was evaluated to meet the forecasted electrical demand within the Fogarty Electrical Needs Area as the existing area demand would exceed the distribution capacity of the Dryden and Elsinore Substations in 2009:

- **System Alternative F-1:** Construct a New 33/12 kV Substation

### Fogarty System Alternative F-1

This system alternative would consist of upgrades at the Applicant's Elsinore 115/33 kV Substation, the construction of a new 33/12 kV substation, reconfiguration of four 12 kV distribution lines, and installation of three new underground 33 kV distribution lines. Additionally, the acquisition of adjacent property to the east of Elsinore Substation would be required to extend the existing 33 kV bus (a conductor used to collect, carry, and distribute powerful electrical current) to accommodate the addition of three underground 33 kV lines to deliver power to the new 33/12 kV substation.

This alternative offers only an interim solution, and does not meet the project objectives of maintaining system reliability and enhancing operational flexibility. The three new 33 kV circuits necessary to feed the new 33/12 kV substation would have to be constructed underground requiring approximately 11 miles

of trenching, causing significant additional environmental impacts. This alternative does not eliminate the need for a new substation in the Fogarty Electrical Needs Area in the future and would only provide a maximum of 56 MVA capacity, which would only serve the projected load through 2015. This alternative is therefore eliminated from further consideration.

### **C.2.3 Consolidated System Alternatives**

Two consolidated system alternatives and the No Project Alternative were evaluated to meet the forecasted electrical demand within the Valley-Ivyglen Electrical Needs Area and the Fogarty Electrical Needs Area:

- **Consolidated System Alternative VIF-1:** Construct a new 115 kV subtransmission line that traverses between the Valley 500/115 kV and Ivyglen 115/12 kV Substations, but take no action regarding the Fogarty Electrical Needs Area
- **Consolidated System Alternative VIF-2:** Construct a new 115/12 kV substation, extending the existing Valley-Elsinore-Ivyglen kV Subtransmission Line into the new substation, and constructing six underground 12 kV distribution circuits within the Fogarty Electrical Needs Area, but take no action on the Valley-Ivyglen Electrical Needs Area
- **Consolidated System Alternative VIF-3:** No Project Alternative

#### **Consolidated System Alternatives VIF-1 and VIF-2**

Consolidated System Alternatives VIF-1 and VIF-2 satisfy the project objectives of only one of the Electrical Needs Areas, and thus have been eliminated from further consideration.

#### **Consolidated System Alternative VIF-3 (Alternative 1)**

The No Project Alternative has been combined for the Valley-Ivyglen System and Fogarty System as the Project addresses both systems. Under the No Project Alternative, the Project would not be constructed and conditions in the area would remain unchanged. This alternative would require the Applicant to serve the Valley-Ivyglen and Fogarty Electrical Needs Areas from the existing substations and subtransmission lines, with no upgrades or modifications. The need for energy in the project region is likely to increase because of projected population and economic growth in Riverside County. The Applicant's current forecast shows that the electric demand in the Valley-Ivyglen Electrical Needs Area would exceed existing capacity in 2008 while the electric demand in the Fogarty Electrical Needs Area would exceed capacity by 2009.

Under this alternative, the significant and unavoidable air quality, land use, mineral resources, and visual resources impacts of the Project would be avoided. However, this alternative would not achieve the project objectives, such as providing safe and reliable service to its customers in the Fogarty and Valley-Ivyglen Electrical Needs Areas, resulting in noncompliance with the CPUC-mandated voltage levels. In concert with CEQA requirements, the No Project Alternative will be included in this EIR for further consideration.

### **C.2.4 Corridor Alternatives**

Two alternative corridors were considered for the Project, northern and middle, as shown in Figure C.2-1. The southern corridor shown in Figure C.2-1 is part of the Project area. Each alternative began at the Valley Substation, shared a common eastern segment to SR-74, and then followed separate routes to end at the Ivyglen Substation:



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**Figure C.2-1 Subtransmission Route Corridors**

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Figure C.2-1 Subtransmission Route Corridors

- **Middle Corridor Alternative:** Construct a new 115 kV subtransmission line that traverses between the Valley 500/115 kV and Ivyglen 115/12 kV Substations along the existing Valley-Serrano 500 kV right-of-way (ROW) to an area north of the Ivyglen Substation to eventually be connected to the Ivyglen Substation by one of various routes.
- **Northern Corridor Alternative:** Construct a new 115 kV subtransmission line that traverses between the Valley 500/115 kV and Ivyglen 115/12 kV Substations along streets through residential neighborhoods and open areas and then south on Temescal Canyon Road to the Ivyglen Substation.

### **Middle Corridor Alternative (Alternative 2)**

The middle corridor alternative would begin at the Valley Substation and run west, crossing I-215 and SR-74 (Figure C.2-1). The corridor would extend west from SR-74 along the existing Valley-Serrano 500 kV ROW to an area north of the Ivyglen Substation. From this 500 kV ROW, several alternative routes were considered to connect the proposed line to the Ivyglen Substation. There are significant design and operational differences between 500 kV transmission lines and 115 kV subtransmission lines; therefore, construction of a new 115 kV subtransmission line within the existing 500 kV ROW could create multiple adverse environmental impacts.

A network of new access roads would be needed to construct the proposed 115 kV subtransmission line through mountainous terrain along the existing 500 kV ROW west of SR-74. Road construction would require extensive earthmoving activities, including rock blasting, grading on steep slopes, and filling of natural drainages. These construction activities would present potential adverse impacts to biological resources, air quality, water quality, erosion, and noise. In addition, future road maintenance and operations would generate adverse impacts to biological resources, air quality, water quality, and erosion. Multiple new access roads traversing across the steep hillsides would contrast dramatically with the existing relatively undisturbed steep terrain, resulting in unavoidable significant impacts to visual resources.

The middle corridor alternative would serve the project objective of providing a direct connection between the Valley and Ivyglen Substations; however, it would not be feasible to utilize it for connections to potential future electrical facilities in the Valley South System. The middle corridor would pass through a sparsely developed mountainous area and therefore, would be too far from existing 115 kV facilities in southern Riverside County to support projected electrical demand in the Valley South System.

However, because the significant and unavoidable impacts from the Project include visual resources, air quality, mineral resources, and land use due to the proximity of the Project to an Eligible Scenic Highway, this alternative would address those impacts. In addition, the middle corridor was suggested during scoping as it will have less of an impact on local residents because it passes through a sparsely developed mountainous area and will therefore be included in this EIR for further consideration.

### **Northern Corridor Alternative**

The northern corridor alternative would begin at the Valley Substation and run west toward SR-74. This corridor would then proceed northwest along existing streets through residential neighborhoods and open areas. After several miles along Theda Street, Mountain Avenue, Palm Street, Ellis Avenue, Post Road, Santa Rosa Mine Road, and Gavilan Road. The northern corridor would then proceed west along Cajalco Road along the southern side of Lake Mathews. From Cajalco Road, this corridor would proceed south on Temescal Canyon Road to the Ivyglen Substation.

The northern corridor alternative would present multiple potential adverse environmental impacts, especially to visual resources. The corridor would follow Cajalco Road, which is a Riverside County Eligible Scenic Highway. Cajalco Road presents scenic vistas of Lake Mathews and the undeveloped surrounding area. Thus, a new 115 kV subtransmission line in this area would be a prominent visual feature along this road in stark contrast to the surrounding open countryside, resulting in significant visual impacts. Cajalco Road also traverses an undisturbed habitat conservation area and bald eagle habitat surrounding Lake Mathews. Thus, potential adverse construction impacts to biological resources would be possible, as well as potential operational impacts to bald eagles.

Although the northern corridor alternative would serve the objective of providing a direct connection between the Valley and Ivyglen substations, it would not be feasible to utilize for connections to potential future electrical facilities in the Valley South System. The electrical systems serving the northern portions of Riverside County are based on a 66 kV system, so a new 115 kV subtransmission line would be incompatible with other facilities in the northern region. Because the northern corridor alternative would potentially cause significant environmental impacts, particularly with regard to visual resources, one of the existing significant and unavoidable impacts, and would not meet operational requirements, this corridor alternative was eliminated from further consideration.

### C.2.5 Route Segment Alternatives

The Applicant considered several different routing alternatives for the proposed subtransmission line by dividing the Project corridor into multiple route segments from the Valley Substation to the Ivyglen Substation. 21 alternative route segments were identified, grouped into three regions with similar settings (Eastern, Central, and Western), and evaluated. These segments and regions are shown in Figure C.2-2 and then shown in more detail in Figures C.2-3 to C.2-8. Based on engineering and environmental considerations, Segments C-5, W-6, W-7, W-9, W-11, and W-12 were immediately deemed infeasible. Therefore, the following five alternatives were identified as potential alternatives for each of the regions:

- **Eastern Region Route Segment Alternative:** Construct a new 115 kV subtransmission line along Segment E-2.
- **Central Region Route Segment Alternative:** Construct a new 115 kV subtransmission line along Segments C-2, C-4, and C-6.
- **Central Region Route Segment (Warm Springs-Pacific Clay Alternative):** Construct a new 115 kV subtransmission line along existing infrastructure on segments C-8A, C-8B, C-8E, and C-9A, C-9B, C-9C, and C-9E. Portions of the existing Valley-Elsinore-Ivyglen 115 kV line would be relocated southward and placed on existing distribution lines (route segment C-8C and portions of C-8C and C-9D). Portions of the existing Valley-Elsinore-Ivyglen 115 kV line would be relocated southward and placed on new infrastructure (portions of C-8C and C-9D). The westernmost portion of the existing Valley-Elsinore-Ivyglen 115 kV line segment, W-1A, would be relocated north-eastward to accommodate the new Valley-Ivyglen 115 kV line (route segment W-14A and W-14B, and W-3B) within a separately proposed Castle and Cooke trail system and utility corridor.
- **Western Region Route Segment Alternative A:** Construct a new 115 kV subtransmission line along Segments W-2, W-3, W-4, W-8, and W-10.
- **Western Region Route Segment Alternative B:** Construct a new 115 kV subtransmission line along Segments W-1, W-4, and W-5.

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**Figure C.2-2 Proposed Subtransmission Route Segment, Alternative Route Segment, and Proposed Substation Site**

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Figure C.2-2 Proposed Subtransmission Route Segment, Alternative Route Segment, and Proposed Substation Site

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**Figure C.2-3 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-3 Proposed Subtransmission and Alternative Route Segments



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**Figure C.2-4 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-4 Proposed Subtransmission and Alternative Route Segments

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**Figure C.2-5 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-5 Proposed Subtransmission and Alternative Route Segments

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**Figure C.2-6 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-6 Proposed Subtransmission and Alternative Route Segments

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**Figure C.2-7 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-7 Proposed Subtransmission and Alternative Route Segments



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**Figure C.2-8 Proposed Subtransmission and Alternative Route Segments**

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Figure C.2-8 Proposed Subtransmission and Alternative Route Segments

### **Eastern Region Route Segment Alternative**

Segment E-2, the Eastern Region Route Segment Alternative, starts at the Valley Substation and ends at the same point on SR-74. The alternative is 1.5 miles longer than the Project and would generate similar levels of impact across most of the resource areas. The alternative would have more significant and unavoidable impacts to visual resources and land use than the Project as the route travels along SR-74 for a longer distance. This alternative is therefore eliminated from further consideration.

### **Central Region Route Segment Alternative (Alternative 3)**

There are a total of seven segments in the Central Region that do not provide seven complete alternative paths. The alternative would consist of C-2, C-4, and C-6. Segment C-7 has significant and unavoidable impacts to visual resources as it would still travel along portions of Highways SR-74 and I-15, which are Eligible State Scenic Highways. However, the alternative would not travel as close to SR-74 as the Project route. It would also travel through less densely populated residential areas, resulting in fewer impacts to visual resources and land use than the Project. The other environmental impacts associated with this alternative would be comparable to the Project's. This alternative will therefore be included in this EIR for further consideration.

### **Central Region Route Segment / Warm Springs-Pacific Clay Alternative (Alternative 5)**

The **Warm Springs** Alternative would connect Segments C-1 in the Central Region to segment W-1A in the Western Region. This alternative comprises segments C-8A, C-8B, C-8C, C-8D, C-8E and C-9A, C-9B, C-9C, C-9D, C-9E (Figure C.2-6). Combined, these segments make up a complete route between the Applicant's Valley 500/115 kV and Ivyglen 115/12 kV Substations and still maintain a route that would serve the Valley-Ivyglen and Fogarty Electrical Needs Areas. This alternative would have comparable environmental impacts to the region, however, additional segments would cross over or extend along Highway I-15 and SR-74. Both highways are Eligible State Scenic Highways, but they are not officially designated at this time.

Segment C-8A extends to the southwest, underground, along SR-74 from Conard Avenue and then turns northwest and traverses along Dexter Avenue. This segment crosses I-15 overhead and continues along Riverside Drive to Collier Avenue. Segment C-8B extends northwest along Collier Avenue on the existing Valley-Ivyglen 115kv line for 1.2 miles and then turns southwest to Baker Street. The 1.2-mile segment along Collier Avenue would be rebuilt to carry the new Valley-Ivyglen circuit. Segments C-8C and C-8D require the relocation of the existing Valley-Elsinore-Ivyglen line from Collier Avenue to Baker Street. The C-8D segment proceeds southwest on Riverside Drive from Collier Avenue and then turns northwest onto Baker Street. Segment C-8C proceeds northwest along Baker Street for approximately 1.2 miles until intersecting the existing Valley-Elsinore-Ivyglen line near Nichols Road. Segment C-8E proceeds underground along SR-74 from Conard Avenue to Collier Avenue. The underground segment then turns northeast and follows Collier Avenue to Riverside Drive. It then rises connects to segment C-8B overhead.

Segment C-9A proceeds southeast along Conard Avenue, from SR-74 to 3rd Street. It then turns southwest and extends along 3rd Street to Cambern Avenue. Segment C-9B proceeds along SR-74 from Conard to Cambern Avenue and then turns at Cambern Avenue and extends to 3rd Street. Segment C-9C proceeds along 3rd Street from Cambern Avenue, crosses over I-15, and extends to Collier Street. Segment C-9D requires the relocation of the existing Valley-Elsinore-Ivyglen line from Collier Avenue to Pasadena Street. This segment would be built along existing lines which proceed along 3rd Street, from Collier Avenue to Pasadena Street. A new line would then turn northwest, extending along Pasadena Street to Riverside Drive. Segment C-9E would proceed northwest along Collier Avenue. It would replace

the existing Valley-Elsinore-Ivyglen 115 kV line that extend southwest on 3<sup>rd</sup> Street. C-9E would extend from 3rd Street along Collier Avenue to Riverside Drive.

Segments C-8A and C-9C would have significant and unavoidable impacts on visual resources as they would traverse along SR-74 and cross over Highway I-15, both of which are Eligible State Scenic Highways. However, segments C-8C and C-8D would travel through less densely populated residential areas, resulting in fewer impacts to visual resources in the localized neighborhoods than would occur with the proposed Project. The routes of this alternative would largely be built along existing distribution lines, with the exception of portions of C-9D and C-8C. The other environmental impacts associated with the alternative would be comparable to the Project's with the exception of floodway encroachment, as indicated on the City of Lake Elsinore Land Use Map. With this alternative, a larger portion of route segments would be within a 100-year floodplain. These impacts, however, would be considered less than significant with mitigation. While significant and unavoidable impacts would occur with this alternative, this alternative will be included in this EIR for further consideration.

The **Pacific Clay** portion was developed for the proposed Valley-Ivyglen 115 kV line to replace the westernmost portion of segment W-1, now designated W-1B (Figure C.2-7). It would use the Castle and Cooke proposed trail system and utility corridor. The trail and utility corridor is part of a yet to be built, master-planned community that Castle and Cooke is developing south of I-15. The new alternative route segment W-14 (sub-segments A and B) would replace segment W-1B. The eastern portion of W-1 (W-1A) would remain as previously defined in the proposed project. As part of this alternative, a portion of the existing Valley-Elsinore-Ivyglen 115 kV line (W-13A) would be relocated eastward to accommodate the new Valley-Ivyglen 115 kV line (W-14A) within the corridor (Figure C.2-7).

A second portion of the existing Valley-Elsinore-Ivyglen 115 kV line (route segment W-13B) would be relocated northward along Lake Street into the proposed Castle and Cooke trail and utility corridor on the south side of I-15. A portion of alternative route segment W-14A would be co-located within this portion of the trail system and utility corridor. The Pacific Clay alternative would largely be co-located on existing distribution lines, and not through an undeveloped area. As such, fewer impacts to agricultural, biological or cultural resources; geology and soils; hazards and hazardous materials; mineral resources; population and housing; public services and utilities; recreation; and transportation would occur than with the proposed Project. Potential air quality and noise impacts would be similar to the route segment proposed in the Project. Impacts to visual resources would be greater for this alternative than for the route segment proposed in the Project as segment W-14B would extend along a longer portion of Highway I-15, an Eligible State Scenic Highway. It should also be noted that portions of segment W-14A, W-14B, and W-3B encroach into a designated floodway, as indicated on the City of Lake Elsinore Land Use Map. With this alternative, a larger portion of Western Region route segments would be within a 100-year floodplain. These impacts, however, are considered less than significant with mitigation. While significant and unavoidable impacts would occur with this alternative it would avoid a significant impact on mineral resources. This alternative will be included in the EIR for further consideration.

### **Western Region Route Segment Alternatives A and B**

There are a total of eight segments in the Western Region that do not provide eight complete alternative paths. Segments W-7, W-9, and W-12 are eliminated due to construction difficulties, which eliminated Segments W-6 and W-11 from further consideration. The use of segments W-2, W-3, W-4, W-8, and W-10 would require replacing the existing crossing of I-15. This would result in removal of the Valley-Elsinore-Ivyglen 115 kV subtransmission line from service and, consequently, would not meet Project objectives. The use of segments W-1, W-4, and W-5 would generate significant land use conflicts. These alternatives are therefore eliminated from further consideration.

## C.2.6 Fogarty Substation Site Alternatives

The Applicant considered two different Fogarty Substation site alternatives as shown in Figure B.2-1:

- **Fogarty Substation Site Alternative A:** Construct a 115/12 kV substation on a 5.7 acre parcel of land directly west of Terra Cotta Road, south of future Kings Highway and north of future Hoff Avenue.
- **Fogarty Substation Site Alternative B:** Construct a 115/12 kV substation on a 12.3 acre parcel of land approximately 230 feet west of Baker Street, with a northwesterly side that fronts for nearly 550 feet along Pierce Street.

### Fogarty Substation Site Alternative A (Alternative 4)

Fogarty Substation Site Alternative A is a 5.7-acre parcel of land located directly west of Terra Cotta Road, south of future Kings Highway, and north of future Hoff Avenue (Figure A.1-2). It is a generally rectangular shaped parcel of land in the City of Lake Elsinore currently owned by the Applicant. The property is zoned single-family residential by the City of Lake Elsinore. The Applicant's temporary Dryden 33/12 kV Substation is currently located on the northeast corner of this site. The existing Valley-Elsinore-Ivyglen 115 kV subtransmission line traverses this property along the north and west side.

This alternative site is feasible because of its proximity to the load to be served, and to the location of four existing distribution circuits that will be served by the new substation. Terra Cotta Road is also planned to be improved as a condition of approval of the Alberhill and Lakeside Palms communities, providing access for circuits to exit the new substation. The alternative is compatible with surrounding land use designations. This alternative would require significantly more grading than the Project and would require the construction of retaining walls and therefore require protection or removal of known cultural resources. The temporary Dryden 33/12 kV Substation would not prevent construction of this alternative. This alternative will therefore be included in this EIR for further consideration.

### Fogarty Substation Site Alternative B

Fogarty Substation Site Alternative B is a 12.3-acre parcel of land located approximately 1,750 feet east of Site Alternative A (Figure A.1-2). The overall site is rectangular in shape and oriented northwest to southeast along its longer axis. The northwesterly side of the site fronts for nearly 550 feet along Pierce Street, and approximately 230 feet west of Baker Street. The property is zoned as limited manufacturing by the City of Lake Elsinore and is not owned by the Applicant. The existing Valley-Elsinore-Ivyglen 115 kV Subtransmission Line bisects this property in a northeasterly direction. This alternative site would require significant distribution line extension to the four existing circuits currently served by the Dryden 33/12 kV Substation on undeveloped roads. This alternative also has a blue-line drainage in its southeast corner that could present significant engineering and construction problems and is therefore eliminated from further consideration.

## C.3 Alternatives Evaluated in this EIR

Below is a list of alternatives to the Project that have been deemed feasible for additional consideration or to have less than significant impact on air quality, land use, mineral resources, or visual resources than the Project. The alternatives discussed above have been renumbered for clarity, with the original name in parentheses. The following alternatives will be considered in this EIR:

- **Alternative 1** (Consolidated System Alternative VIF-3): No Project

- **Alternative 2** (Middle Corridor Alternative): Construct a new 115 kV subtransmission line that traverses between the Valley 500/115 kV and Ivyglen 115/12 kV Substations. The line would pass along the existing Valley-Serrano 500 kV right-of-way (ROW) to an area north of the Ivyglen Substation and eventually connect to the Ivyglen Substation by one of various routes (Figure C.2-1).
- **Alternative 3** (Central Region Route Segment Alternative): Construct a new 115 kV subtransmission line along segments C-2, C-4, and C-6.
- **Alternative 4** (Fogarty Substation Site Alternative 1): Construct a 115/12 kV substation on a 5.7-acre parcel of land directly west of Terra Cotta Road, south of future Kings Highway, and north of future Hoff Avenue (Figure A.1-2).
- **Alternative 5** (Warm Springs-Pacific Clay Alternative): Construct a new 115 kV subtransmission line along existing infrastructure on segments C-8A, C-8B, C-8E and C-9A, C-9B, C-9C, and C-9E (Figure C.2-6). Portions of the existing Valley-Elsinore-Ivyglen 115 kV line would be relocated southward and placed on existing distribution lines (segment C-8D and portions of C-8C and C-9D). Portions of the existing Valley-Elsinore-Ivyglen 115 kV line would be relocated southward and placed on new infrastructure (C-8C and C-9D). The westernmost portion of the existing Valley-Elsinore-Ivyglen 115 kV line segment, W-1A, would be relocated northeastward to accommodate the new Valley-Ivyglen 115 kV line, W-4, using line segments W-14A and W-14B and W-3B (Figures C.2-7 and C.2-8).

These alternatives and their environmental impacts compared to those from the Project are individually discussed in Chapter E Comparison of Alternatives.