

# Executive Summary

## ES.1 Introduction

On May 28, 2009, Southern California Edison (SCE, or the applicant) submitted an application (A.09-05-027) to the California Public Utilities Commission (CPUC) for a Certificate of Public Convenience and Necessity (CPCN) to construct and operate the Eldorado–Ivanpah Transmission Project (EITP, or the project). Because the project would be located primarily on lands managed by the Bureau of Land Management (BLM), the applicant also filed a right-of-way (ROW) application with the BLM for a permit to construct. In compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act of 1969 (NEPA), as amended, the CPUC and the BLM have prepared this Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) to provide to both agency decision-makers and the public detailed information about the environmental impacts of the project, reasonable alternatives to the project, and ways to mitigate or avoid the project's significant or adverse environmental impacts.

The CPUC's purpose for developing the EIR/EIS is to respond to SCE's application for a CPCN under California Public Utilities Code Section 1001, et seq., and General Order 131-D. The purpose of this EIR is to disclose any environmental impacts associated with the project, in compliance with CEQA, to assist CPUC decision makers in determining whether to issue a CPCN for the EITP.

The applicant has filed an application for a ROW across public lands with the BLM pursuant to Title V of the Federal Land Policy and Management Act (FLPMA) to upgrade the existing electric transmission system with a newer and larger transmission line, substations, and communications facilities. Federal orders and laws require government agencies to evaluate energy generation projects and facilitate the development of renewable generation sources. The BLM will evaluate the ROW application in accordance with 43 Code of Federal Regulations (CFR) 2800.

The BLM's purpose in preparing the EIS is to:

- Disclose the potential effects of authorizing the proposed transmission line and examine reasonable alternatives to the proposed action;
- Determine whether the proposed transmission line is consistent with BLM land use plans;
- Decide whether the ROW grant should be issued for the transmission line;
- Determine the most appropriate location for the transmission line on federal lands, considering multiple use objectives; and
- Determine conditions that should be applied to the construction, operation, and maintenance of the transmission line on federal lands.

This Final EIR/EIS describes and evaluates the environmental impacts that are expected to result from construction and operation of the applicant's proposed EITP, and presents recommended mitigation measures that, if adopted, would avoid or minimize many of the significant environmental impacts identified. In accordance with CEQA and NEPA requirements, this EIR/EIS also identifies alternatives to the proposed project (including the No Project / No Action Alternative) that could avoid or minimize significant environmental impacts associated with the project as proposed by the applicant, and evaluates the environmental impacts associated with these alternatives. Specifically, the information contained in this EIR/EIS will be considered by the CPUC and the BLM in their respective deliberations on approval of the CPCN and the ROW grant. The information may also be considered by other agencies responsible for permits related to the project.

1 The applicant's purpose for the proposed project is to interconnect and deliver up to 1,400 megawatts (MW) of  
2 renewable energy that is expected to be developed in the Ivanpah Valley area. SCE's existing facilities at Eldorado  
3 Substation and existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV transmission line cannot  
4 accommodate the additional power that would be generated by the anticipated renewable projects in the Ivanpah  
5 Valley. The applicant has proposed to construct the EITP to connect planned renewable energy sources to the  
6 CAISO-controlled transmission grid. The CAISO plans and approves transmission interconnections and maintains an  
7 Interconnection Request Queue of generation projects that have requested access to the transmission grid. The  
8 EITP would also improve line reliability so that it would comply with North American Electric Reliability Corporation  
9 (NERC) standards.

10  
11 The applicant identified the following additional objectives for the project in the Proponent's Environmental  
12 Assessment (PEA):

- 13  
14 1. Reliably interconnect new renewable generation resources (including but not limited to new solar  
15 generation) in the Ivanpah Valley area and help the applicant and other California utilities comply with the  
16 California Renewables Portfolio Standard (RPS) in an expedited manner;
- 17 2. Comply with all applicable reliability planning criteria required by NERC, the Western Electricity Coordinating  
18 Council (WECC), and the CAISO;
- 19 3. Construct facilities in an orderly, rational, and cost-effective manner to maintain reliable electric service by  
20 minimizing service interruptions during construction;
- 21 4. Maximize the use of existing transmission line ROWs to minimize effects on previously undisturbed land and  
22 resources;
- 23 5. Minimize environmental impacts through selection of routes, tower types, and locations;
- 24 6. Where existing ROW is not available, use the shortest feasible route that minimizes environmental impacts;  
25 and
- 26 7. Meet project needs in a cost-effective and timely manner.

27  
28 In addition to the applicant's stated purpose and objectives for the project, three solar developers have become party  
29 to the CPUC proceedings and have formally stated their support for the EITP. These developers have applications to  
30 construct solar generation facilities near the proposed project and have stated their intention to connect to the  
31 California electrical grid through the EITP. BrightSource Energy, Inc., filed a response in support of the project on  
32 October 26, 2009, and reiterated its support for the project at the CPUC's pre-hearing conference on December 2,  
33 2009. First Solar, Inc., appeared as a party at the pre-hearing conference and stated its support for the project; First  
34 Solar intends to connect its proposed generation facility to the EITP lines in the area of the proposed project.  
35 Similarly, in a Motion for Party Status dated January 11, 2010, NextLight Renewable Power, LLC, stated both its  
36 support for and intention to interconnect with the proposed project.

37  
38 Having taken into consideration the applicant's seven objectives listed above, the CPUC and BLM identified the  
39 following abridged objectives:

- 40  
41 1. To connect renewable energy sources in the Ivanpah Valley area in compliance with Executive Order  
42 13212, the Energy Policy Act of 2005, the Federal Power Act, California Senate Bill 1078, and California  
43 Senate Bill 107;
- 44 2. To improve reliability in compliance with applicable standards, including NERC, WECC, CAISO, and SCE  
45 standards; and
- 46 3. To maximize the use of existing ROW and designated utility corridors to minimize impacts on environmental  
47 resources.

## ES.2 Changes Between Issuance of the April 2010 Draft EIR/EIS and the November 2010 Final EIR/EIS

The Draft EIR/EIS was published on April 30, 2010. The public review period on the Draft EIR/EIS concluded on June 26, 2010, meeting the requirements of both CEQA and NEPA. The comments received on the DEIR/EIS are presented in Appendix G of this Final EIR/EIS, along with responses to each comment. Some comments received on the Draft EIR/EIS also resulted in changes to the text of the EIR/EIS. These changes are indicated in this Final EIR/EIS except in this Executive Summary. Inserted text is underlined and deleted text is shown in ~~strikeout~~.

The following list provides the changes made to the Final EIR/EIS project description in response to comments received on the Draft EIR/EIS. None of these changes led to an increase in the significance or severity of a CEQA or NEPA impact determination.

- **ISEGS Whole of the Action Description:** The ISEGS project description is now updated based on the recent CEC Final Decision and BLM FEIS and ROD. The ISEGS Mitigated Ivanpah 3 Alternative is now discussed in this document since this alternative replaced the original proposed project in the ISEGS CEQA and NEPA environmental review documents.
- **Clarifications on Grid Interconnection:** The ISEGS/EITP interconnection is now further described in response to comments and new information provided by the applicant.
- **Land Disturbance Values:** Corrections have been made to the land disturbance values presented for spur/access roads, helicopter staging areas and construction yards, undergrounding, and temporary disturbance from the 33-kV distribution line.
- **Microwave Site Listed in Project Description Summary:** The microwave communication site is now described as a telecommunication component in the project description summary. The microwave site was previously described and analyzed in the Draft EIR/EIS but had been left out of the summary.
- **Potential EITP Users Clarified:** Text is now included that clarifies that EITP may connect other sources of energy to the grid in the future and not just solar generation.
- **115-kV Subtransmission Line Clarification:** Text is now included that clarifies that a piece of the existing 115-kV transmission line from Mountain Pass will remain and will terminate at the Ivanpah Substation.
- **Underground Fiber-optic Cable Segment Lengths:** Adjustments have been made to the lengths (~2 miles in Nevada and 3 miles in California) reported for the fiber-optic cable segments.
- **Underground Alert Service:** Updated Underground Alert Service information is now provided for Nevada.
- **33-kV Distribution Circuitry Adjustments:**
  - The applicant revised the description of voltages of the EITP distribution lines (from 12-kV to 33-kV), and this information is now included in this document.
  - The lengths of new ducts and circuitry required are now updated (400 feet of new ducts, 1-mile segment of circuitry).
  - Underground/overhead line lengths are now updated: 5,200 feet underground and 5,900 feet overhead.
- **Access and Spur Roads Lengths Adjusted:** The applicant revised the description of the access roads and spur roads. The updated values are now incorporated: 1.7 miles of new spur roads (originally 1.2 miles) and 1.2 miles of new access roads.
- **Transformer banks at the Ivanpah Substation to reflect current CAISO recommendations:** The proposed Ivanpah Substation now includes two 280-MVA 230/115-kV transformer banks (originally three) and three 230-kV lines in the switchrack (originally five).

- 1       • **Transformer Installation:** The applicant now intends to install the transformers by truck (towing) instead of  
2       using cranes.
- 3       • **Helicopter staging areas:** The applicant revised the description of HS-1. The size of HS-1 has been  
4       adjusted from 3.6 to 5.0 acres.
- 5       • **Water usage:**
- 6       - The applicant provided new information on water usage and water source:
- 7           ◦ Construction: water will be sourced from wells owned by Molycorp, Minerals, LLC.
- 8           ◦ Operations: no water will be used for routine line washing.
- 9       • **Erosion control:** An updated erosion-control description has been added.
- 10      • **SF<sub>6</sub> recovery procedures:** Additional information on SF<sub>6</sub> recovery procedures provided by the applicant  
11      has been added to the document.
- 12      • **Type of fuel to be used in emergency generator:** Additional information on fuels provided by the  
13      applicant has been added to the document.
- 14      • **Fuel truck use and spill containment procedures:** Additional information on fuel truck use provided by  
15      the applicant has been added to the document.
- 16      • **Area Transmission Lines:** Corrections to maps and references to transmission lines crossed by the  
17      proposed EITP route have been made.
- 18      • **Non-transmission Alternatives:** Expanded discussion of the in-basin generation and demand-side  
19      alternatives were included in response to public comments to the DEIR/EIS.

20  
21 In two cases, new information provided by the applicant on the project after the publication of the DEIR/EIS led to a  
22 reduction in the significance or severity of an impact under CEQA and/or NEPA. Impact HYDRO-2 (Lowering of  
23 Water Table or Interference with Aquifer Recharge) and IMPACT PUSVC-2 (Project Construction Temporarily  
24 Increases Water Use, and Project Operation Contributes to Increased Long-Term Water Consumption) have been  
25 reduced to less than significant. These impacts were determined to be potentially significant in the Draft EIR/EIS;  
26 however, when the draft was published, the source of the water to be used for dust suppression during construction  
27 was unknown. The water supply in the project area is limited, and therefore, there was a possibility that the impact on  
28 groundwater supplies could be significant. After the Draft EIR/EIS was published, the applicant submitted information  
29 on water supply that included a designated source: wells owned by Molycorp Minerals, LLC. This information was  
30 incorporated into the hydrology and water quality analysis and the public services and utilities analysis. The updated  
31 CEQA determination is less than significant with mitigation for both of these impacts. The potential for lowering local  
32 groundwater levels during project construction would be negligible, localized, and short term.  
33

### 34 **ES.3 Overview of the Proposed Project and Alternatives**

35  
36 The proposed EITP would include the following components:

- 37       • **Powerlines**
- 38       - **Eldorado–Ivanpah Transmission Line** – A new double-circuit 230-kilovolt (kV) transmission line,  
39       approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada  
40       and the proposed Ivanpah Substation in California. It would replace a portion of the existing 115-kV  
41       transmission line that runs from Eldorado to Mountain Pass through Baker, Dunn Siding, and Coolwater  
42       Substations.  
43

- 1           – **Subtransmission Line** – A proposed 600- to 800-foot-long 115-kV subtransmission line would connect  
2 the remaining portion of the existing Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass line to  
3 the proposed Ivanpah Substation.
- 4           – **Distribution Lines** – A proposed 33-kV distribution circuit, consisting of approximately 5,200 feet of  
5 new underground facilities and 5,900 feet of overhead lines, would be constructed to provide light and  
6 power to the proposed Ivanpah Substation and microwave telecommunications site in Nipton,  
7 California. Approximately 400 feet of new underground circuitry would be constructed to provide light  
8 and auxiliary power to the proposed Ivanpah Substation. In addition, the new distribution circuit includes  
9 a new 4,300-foot segment of 33-kV overhead lines and a new underground service would provide  
10 power to a proposed microwave telecommunications site.
- 11       • **Substations**
- 12           – **Ivanpah Substation** – The proposed substation would be located in California near Primm, Nevada,  
13 and would serve as a connector hub for renewable energy generated in the Ivanpah Valley area. The  
14 substation would include a mechanical and electrical equipment room (MEER) and microwave tower.
- 15           – **Eldorado Substation** – Changes would be made inside the existing Eldorado Substation to  
16 accommodate the new Eldorado–Ivanpah 230-kV transmission line.
- 17       • **Telecommunication System**
- 18           – Existing overhead ground wire would be replaced with optical ground wire on an approximately 25-mile  
19 section of the existing Eldorado–Lugo 500-kV transmission line.
- 20           – A 4.8-mile-long underground duct from the Eldorado–Lugo 500-kV transmission line to a proposed  
21 communication site in Nipton, California, would be installed.
- 22           – A microwave communication site in Nipton that would consist of a communication building, a  
23 microwave tower, and an emergency generator.
- 24           – A microwave path consisting of two 180-foot-tall communication towers would be installed between  
25 Nipton and the proposed Ivanpah Substation (a length of approximately 12 miles).
- 26           – A communications room would be installed in the MEER at the new Ivanpah Substation to house  
27 communication equipment.
- 28           – Telecommunication equipment would be installed at the Eldorado Substation.

29  
30 Alternatives to the proposed project were developed in accordance with CEQA and NEPA requirements and are the  
31 outcome of a CPUC and BLM screening process that identified and analyzed a full range of reasonable alternatives.  
32 Before filing the application, the applicant consulted with both the CPUC and the BLM through a pre-filing process,  
33 and a number of alternatives were developed at that time. Additionally, the CPUC and the BLM performed an  
34 independent and thorough review of all the information submitted with the application to develop a range of  
35 reasonable alternatives that would reduce one or more adverse effects. This process included a review of surveys,  
36 studies, and applicable planning documents for the region and a meeting with the CAISO on September 28, 2009, to  
37 discuss reliability standards and transmission system planning. In addition, the alternatives analysis was expanded  
38 considering two non-transmission scenarios: in-basin generation and demand-side. These alternatives were not  
39 carried forward for analysis in this EIR/EIS and are further explained in Appendix A-1, Alternatives Screening Report.

40  
41 Alternatives to the proposed project carried forward for further analysis in this EIR/EIS are different transmission line  
42 routes and telecommunications options. Alternatives carried forward are considered at an equivalent level of analysis  
43 as the proposed project in this EIR/EIS. The alternatives carried forward for analysis in this EIR/EIS are:

- 44  
45       • **Parallel to Los Angeles Department of Water and Power (LADWP) Corridor Alternative (Transmission**  
46 **Alternative Route A):** This alternative would deviate from the existing ROW from milepost (MP) 1 to MP 7,

1 paralleling an existing LADWP transmission line to bypass a 0.8-mile segment of the proposed route that  
2 would not be located within the existing BLM designated utility corridor.

- 3 • **North of Eldorado Alternative (Transmission Alternative Route B):** This alternative would deviate from  
4 the existing ROW from MP 1 to MP 2, paralleling an existing Eldorado–Mead 230-kV transmission line to  
5 bypass a 0.8-mile segment of the proposed route that would not be located within an existing BLM-  
6 designated utility corridor.
- 7 • **North Dry Lakes Reroute Alternative (Transmission Alternative Route C):** This alternative would  
8 deviate from the existing ROW from MP 27 to MP 35 to avoid crossing Ivanpah Dry Lake.
- 9 • **South Dry Lakes Reroute Alternative (Transmission Alternative Route D):** This alternative would  
10 deviate from the existing ROW from MP 27 to MP 30 and would parallel the existing LADWP Marketplace–  
11 Adelanto 500-kV transmission line where that line crosses through the Ivanpah Dry Lake. This route would  
12 reduce the overall transmission footprint, since the EITP towers would follow to the extent feasible the  
13 existing LADWP 500-kV ROW.
- 14 • **South Dry Lakes Bypass Alternative (Transmission Subalternative E):** This alternative is a sub-  
15 alternative of Transmission Alternative Route D and would replace the northernmost portion of Alternative D.  
16 This route would also reduce the overall transmission footprint, since the EITP towers would follow to the  
17 extent feasible the existing LADWP 500-kV ROW.
- 18 • **Telecommunication Alternative (Golf Course):** This alternative would deviate from the proposed  
19 telecommunication route outside the Town of Nipton, California. This alternative would not require the  
20 proposed microwave tower. The telecommunications line would continue along the north side of Nipton  
21 Road in a new underground duct for approximately 10 miles. The telecommunications line would then be  
22 underbuilt on existing distribution lines for approximately 10 miles to the proposed Ivanpah section, with the  
23 exception of a segment that would be installed in a new underground duct beneath the Primm Valley Golf  
24 Course.
- 25 • **Telecommunication Alternative (Mountain Pass):** This alternative would deviate from the proposed  
26 telecommunication route outside the town of Nipton, California. This alternative would not require the  
27 proposed microwave tower. The telecommunications line would continue along the north side of Nipton  
28 Road in a new underground duct for approximately 10 miles. West of the town of Mountain Pass, the  
29 telecommunications line would be underbuilt on existing distribution lines for approximately 15 miles and  
30 then would run north of the existing Mountain Pass Substation to the proposed Ivanpah Substation.

31  
32 Additional alternatives were considered but eliminated from further consideration, based on a preliminary analysis of  
33 potential environmental impacts, feasibility, and ability to meet the basic project objectives outlined in Section ES.1.  
34 These alternatives and the rationale for their elimination are discussed in detail in Appendix A-1, Alternative  
35 Screening Report.  
36

## 37 **ES.4 Choice Among Alternatives**

38  
39 This summary describes the proposed project and alternatives. A more detailed description is provided in Chapter 2,  
40 “Description of the Proposed Project and Alternatives.” To determine the alternatives that would be analyzed in detail  
41 in this Draft EIR/EIS, a screening process was completed. The results of this process are documented in the  
42 Alternatives Screening Report provided in Appendix A-1. The alternatives screening process evaluated 18 potential  
43 alternatives, classified in four major categories: system, routing, telecommunication, and technology. The alternatives  
44 screening process consisted of the following steps:

- 45 • **Step 1 – Describe each alternative to facilitate comparative evaluation.**

- 1 • **Step 2** – Evaluate the advantages and disadvantages of each alternative compared with the proposed  
2 project, based on CEQA/NEPA criteria such as project objectives, purpose, and need; feasibility; and  
3 environmental effects.
- 4 • **Step 3** – Retain for analysis only the alternatives that meet the CEQA/NEPA criteria.  
5

6 As a result of this screening process, seven alternatives were carried forward to be analyzed in this Draft EIR/EIS  
7 along with the No Project / No Action Alternative and the proposed project. The advantages and disadvantages of  
8 these alternatives are summarized in Table ES-1.  
9

## 10 **Ranking of Alternatives and Selection of the Environmentally Superior Alternative** 11 **(CEQA) and Agency Preferred Alternative (NEPA)**

12 The environmental analysis presented in this EIR/EIS evaluates the potential impacts associated with the reasonable  
13 range of alternatives carried forward for analysis of the EITP. The alternatives were ranked from the most to the least  
14 environmentally preferred to facilitate selection of the Environmentally Superior Alternative under CEQA (California  
15 Code of Regulations [CCR], Title 14 §15126.6(e)(2)). Similarly, the results of the comparison of alternatives lead to  
16 the BLM Preferred Alternative under NEPA.  
17

18 The various transmission alternative routes could have major differences in potential impacts on biological resources.  
19 Increases in the total temporary and permanent disturbance of previously undisturbed desert habitat would result in  
20 the direct and indirect loss of habitat for listed or sensitive plant species, native vegetation communities, and  
21 sensitive wildlife habitat. Alternatives B and C would have the greatest associated disturbance and effects on these  
22 resources. The increase in the spatial extent of the project footprint would increase the potential for disturbing wildlife  
23 and inducing wildlife mortality. In particular, Alternative C would cross higher quality desert tortoise habitat.  
24 Alternative D and Subalternative E would also have associated impacts on native vegetation (pink funnel lily) not  
25 found along the proposed project route.  
26

27 Comparison of alternatives has resulted in the following ranking of environmentally preferred alternatives:  
28

- 29 • Proposed Project
- 30 • Transmission Alternative Routes A and D, with Subalternative E
- 31 • Transmission Alternative Route B
- 32 • Transmission Alternative Route C
- 33 • Golf Course Telecommunication Alternative
- 34 • Mountain Pass Telecommunication Alternative  
35

36 Each transmission or telecommunication alternative was analyzed separately; however because the transmission  
37 alternatives are minor route variations, Transmission Alternative Routes A or B could be combined with either  
38 Transmission Alternative Routes C or D or Subalternative E. Similarly, any of the routing alternatives could be  
39 combined with either telecommunication alternative.  
40

41 Based on the conclusions of the environmental analysis, the CPUC has determined that the environmentally superior  
42 alternative is the proposed project, because it would have less land disturbance and its impacts on sensitive  
43 biological resources would be less significant, and because it would meet all of the project's objectives. However,  
44 under CEQA the proposed project would result in significant and unavoidable impacts to desert tortoise habitat  
45 (biological resources) and significant adverse impacts to air quality. Taken together, the ISEGS and EITP project  
46 would result in significant and unavoidable impacts on several sensitive plant species and desert tortoise (biological  
47 resources), air quality, and visual resources. The two projects also contribute to significant and unavoidable  
48 cumulative impacts on land use.

Table ES-1 Summary Comparison of Components of the Proposed Project and Alternatives

Category	Alternatives	Preliminary Environmental Comparison with the Proposed Project	
		Advantages	Disadvantages
Transmission Alternative Routes	Parallel to LADWP (Transmission Alternative A)	<ul style="list-style-type: none"> <li>• Would eliminate several transmission crossovers near Eldorado Substation</li> <li>• Route would fall within an existing BLM-designated utility corridor</li> <li>• Reduced impacts to cultural resources</li> <li>• Reduced impacts to intermittent streams</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for greater habitat disturbance. The construction area west of Eldorado Substation consists of undisturbed desert habitat</li> <li>• Potential for greater impact to tortoise habitat, other wildlife, rare plant species, and desert vegetation</li> </ul>
	North of Eldorado (Transmission Alternative B)	<ul style="list-style-type: none"> <li>• Reduced impacts to cultural resources</li> <li>• Reduced impacts to intermittent streams due to fewer crossings</li> <li>• Route would fall within an existing BLM-designated utility corridor</li> </ul>	<ul style="list-style-type: none"> <li>• Would require 5.3 miles of new transmission line ROW</li> <li>• Greater potential for ground disturbance from new transmission line ROW</li> </ul>
	North Dry Lakes Reroute (Transmission Alternative C)	<ul style="list-style-type: none"> <li>• Avoids crossing Ivanpah Dry Lake</li> <li>• Reduced visual impact compared with the proposed project; existing transmission line would be removed and relocated and it would not be visible from nearby residential use</li> <li>• Reduced impacts to paleontological resources</li> <li>• Reduced impacts to intermittent streams due to fewer crossings</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for greater impacts to desert tortoise and its habitat. This alternative has a higher quality desert tortoise habitat compared with the proposed route.</li> <li>• Potential for greater impacts to cultural resources associated with disturbance of Arrowhead Trail Highway</li> <li>• Would require 5.3 miles of new 130-foot ROW north of Ivanpah Dry Lake and Primm, Nevada</li> </ul>
	South Dry Lakes Reroute (Transmission Alternative D)	<ul style="list-style-type: none"> <li>• Would reduce the overall transmission footprint, following to the extent feasible the existing LADWP 500-kV ROW</li> <li>• Reduced visual impact compared with the proposed project; existing transmission line would be removed and relocated and it would not be visible from nearby residential use</li> <li>• Reduced potential for the presence of sensitive wildlife or plant species occurring within the limits of this alternative (except native pink funnel lily)</li> <li>• Reduced impacts to intermittent streams due to fewer crossings</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for greater impacts to cultural resources</li> <li>• Potential for greater ground disturbance due to new access roads</li> <li>• Would require approximately 3.3 miles of new ROW</li> </ul>
	South Dry Lakes Bypass (Transmission Subalternative E)	<ul style="list-style-type: none"> <li>• Similar to those identified for Alternative D</li> </ul>	<ul style="list-style-type: none"> <li>• Similar to those identified for Alternative D</li> </ul>

Table ES-1 Summary Comparison of Components of the Proposed Project and Alternatives

Category	Alternatives	Preliminary Environmental Comparison with the Proposed Project	
		Advantages	Disadvantages
Telecommunication Alternatives	Golf Course Telecommunication Alternative	<ul style="list-style-type: none"> <li>Visual impacts may be reduced for certain portions of the telecommunication line that would be located underground</li> </ul>	<ul style="list-style-type: none"> <li>Potential for greater ground disturbance and impacts to paleontological resources due to underground construction</li> <li>Underground construction has potential for greater impacts to sensitive habitat and to cultural and paleontological resources</li> </ul>
	Mountain Pass Telecommunication Alternative	<ul style="list-style-type: none"> <li>Visual impacts may be reduced for certain portions of the telecommunication line that would be located underground or out of line-of-sight of sensitive resources</li> </ul>	<ul style="list-style-type: none"> <li>Greater potential for ground disturbance and impacts to paleontological resources due to underground construction</li> <li>Potential for greater construction-related hazards due to transport, use, or disposal of hazardous materials and for upsets or accidents involving releases of hazardous materials</li> </ul>

Note: Information provided here is based on the applicant's preliminary design for the EITP and is subject to change during final engineering.

Key:

kV = kilovolt

LADWP = Los Angeles Department of Water and Power

ROW = right-of-way

Likewise, based on the results of the environmental review and comparison of the major environmental issues associated with each alternative evaluated, the BLM has determined that the agency preferred alternative under NEPA is the proposed action (proposed project). The "agency preferred alternative" is the alternative that the agency believes would fulfill its statutory mission and responsibilities, considering economic, environmental, technical, and other factors (Title 40 CFR Section 1502.14(e)). From the reasonable range of alternatives carried forward for analysis, the proposed project would have an overall lower land disturbance and fewer potential adverse effects on biological resources. However, under NEPA the proposed project would result in major unavoidable adverse effects on desert tortoise habitat and moderate to major adverse effects on aesthetics and air quality.

## ES.5 Whole of the Action (CEQA) /Cumulative Action (NEPA)

In addition to the environmental impacts analysis of the proposed project and its alternatives, this document contains information on the proposed Ivanpah Solar Electric Generating System (ISEGS) project.

Because ISEGS would be a stationary generation facility located in California, the CEC is the state agency responsible for issuing a permit to BrightSource, Inc., for the proposed ISEGS project. Because the project would be located on federal lands, ISEGS required a ROW grant from the BLM. The CEC and the BLM are the joint state and federal lead agencies responsible for conducting the environmental analysis for ISEGS. The ISEGS project has been approved by both the CEC and the BLM on October 5, 2010, and October 14, 2010, respectively. The information about ISEGS contained in this document is based on the environmental review contained in the BLM and the CEC's FSA/DEIS; the CEC's FSA Addendum, Errata to the FSA Addendum, and the Final Decision; and the BLM's Supplemental DEIS, Final EIS, and Record of Decision (ROD).

BrightSource, Inc., has an executed Purchase Power Agreement (PPA) with the applicant to connect its ISEGS project to the EITP. Based on the existence of a signed PPA and the quantity and quality of information available on the ISEGS project, the CPUC and the BLM determined that the ISEGS project would be discussed in this document as part of the "Whole of the Action/ Cumulative Action" to comply with CEQA and NEPA disclosure requirements. This document contains information on the design and environmental effects of the ISEGS Mitigated Ivanpah 3 alternative because this was the alternative approved by both the CEC and the BLM. This alternative has a smaller footprint than the original alternative included as part of the "Whole of the Action / Cumulative Action" in the EITP Draft EIR/EIS and was developed to mitigate impacts to special status plant species and desert tortoise habitat.

This EIR/EIS, therefore, analyzes the EITP (including the transmission upgrade, the substation, and the telecommunication system and alternatives) but includes a summary of the ISEGS project's design and environmental impacts, as disclosed in the CEC and BLM's CEQA and NEPA documents listed above. Within Chapter 2, "Project Description," and within each resource section in Chapter 3, "Environmental Analysis / Environmental Effects," the summary of ISEGS' environmental impacts is intended for both disclosure and to assist agency decision-makers. The Whole of the Action / Cumulative Action sections do not include a new analysis of impacts but rather a synopsis of the CEC's and the BLM's determinations. Additionally, an expanded summary of the aggregate impacts of the EITP and the ISEGS project is included in the Final EIR/EIS, to provide enhanced clarity for the public and decision makers.

A brief description of the ISEGS project from the FSA/DEIS follows.

**ISEGS.** The ISEGS Project proposed by BrightSource Energy, Inc., would be a solar-concentrating thermal power plant and related facilities. The project, located 4.5 miles southwest of Primm, Nevada, would be developed in three separate phases (120 MW, 125 MW, and 125 MW) for a final generation capacity of 370 MW. The ISEGS total project footprint is estimated to be approximately 3,600 acres (or 5.6 square miles).

The proposed development would include fields of sun-tracking heliostat mirrors (173,500 mirrors in total) that would reflect solar heat into boilers on centralized 459-foot-tall power towers (three towers in total for the entire project). Steam from the boilers would power steam turbine generators to produce the electricity. The facility would also include a natural gas backup to provide additional heat for plant start-up and during temporary cloud

cover. The natural gas would be supplied through a 6-mile-long pipeline measuring between 4 to 6 inches in diameter that would supply gas from the Kern River Gas Transmission pipeline.

## ES.6 Areas of Controversy, Issues Raised, and Issues to be Resolved

The CPUC and the BLM determined that the proposed EITP could cause a significant adverse effect on the environment. The agencies therefore initiated preparation of an EIR/EIS. The CPUC filed a Notice of Preparation (NOP) with the State Clearinghouse and the BLM published a Notice of Intent (NOI) in the Federal Register. These notices formally initiated a public scoping period during which public and agency input was solicited on the scope of issues that should be addressed in the EIR/EIS. Comments received during the scoping period are included in the Scoping Summary Report (Appendix E).

Sensitive environmental issue / resource areas identified during the scoping process are listed in Table ES-2 and are discussed in detail in Chapter 3 of the EIR/EIS.

**Table ES-2 Sensitive Environmental Resource / Issue Areas Identified during the Scoping Process**

Issue / Resource Area	Topics Addressed in the Analysis
Alternatives	<ul style="list-style-type: none"> <li>Impacts to biological resources, including wildlife</li> <li>CEQA and NEPA compliance</li> </ul>
Biological Resources	<ul style="list-style-type: none"> <li>Impacts on migratory birds</li> <li>Impacts on vegetation</li> <li>Impacts on wildlife</li> <li>Mojave National Preserve impacts</li> <li>Clark County Multiple Species Habitat Conservation Plan (MSHCP)</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>National Historic Preservation Act compliance</li> </ul>
Cumulative Impacts	<ul style="list-style-type: none"> <li>Conflicts with applicable federal, state, or local land use plans, goals, or policies</li> <li>Conflicts with proposed land use</li> <li>Impacts to biological resources, including wildlife</li> <li>Lighting interference</li> </ul>
Lands and Real Estate	<ul style="list-style-type: none"> <li>Clark County Multiple Species Habitat Conservation Plan (MSHCP)</li> <li>Boulder City Conservation Easement (BCCE)</li> </ul>
Purpose and Need	<ul style="list-style-type: none"> <li>NEPA compliance</li> </ul>
Regulatory Guidelines and Consistency	<ul style="list-style-type: none"> <li>NEPA compliance</li> </ul>
Safety	<ul style="list-style-type: none"> <li>Southern Nevada Supplemental Airport (SNSA)</li> </ul>

After publishing the Draft EIR/EIS on April 30, 2010, the CPUC and BLM hosted a 45-day public comment period which concluded on June 26, 2010, meeting both the requirements of CEQA and NEPA. Comments received on the Draft EIR/EIS ranged from requests for clarification on the applicant's project description to requests for additional resource-specific information for several resource sections (e.g., air quality, biology, hazards and safety, and land use), comments on the Whole of the Action / Cumulative Action approach, and comments on the range of project alternatives. A table of those who submitted comments on the Draft EIR/EIS is provided in Table ES-3. The comments letters and corresponding responses to the comments are available in Appendix G of Volume III of the Final EIR/EIS.

Table ES-3 Comments on the DEIR/EIS

Comments received from governmental entities
<ul style="list-style-type: none"> <li>• US Environmental Protection Agency;</li> <li>• California Department of Fish and Game;</li> <li>• California Department of Transportation;</li> <li>• California Department of Toxic Substances Control;</li> <li>• California State Lands Commission;</li> <li>• Clark County Department of Aviation;</li> <li>• Mojave Dessert Air Quality Management District; and</li> <li>• Nevada Department of Wildlife.</li> </ul>
Comments received from interested parties
<ul style="list-style-type: none"> <li>• BrightSource Energy;</li> <li>• Center for Biological Diversity, San Francisco Office;</li> <li>• Desert Conservation Program;</li> <li>• Powers Engineering;</li> <li>• Sierra Club;</li> <li>• Southern California Edison; and</li> <li>• Western Watersheds Project.</li> </ul>

1  
2 **ES.7 Applicant Proposed Measures**  
3

4 The applicant has included the following applicant proposed measures (APMs) to avoid or minimize impacts of the  
5 proposed EITP or its alternatives on environmental resources. These APMs are part of the EITP and are  
6 distinguished from mitigation measures for potentially significant impacts under CEQA and NEPA. If the proposed  
7 EITP (or any of its alternatives) is approved, the applicant will implement the APMs listed in Table ES-4 regardless of  
8 whether potential significant impacts were identified during the environmental analysis under this EIR/EIS.  
9

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<b>Aesthetics</b>	
APM AES-1: Road Cut Rock Staining	Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.
APM AES-2: Seeding and Inter-Planting	Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, road cuts would be treated by seeding and/or inter-planting into the disturbed areas to restore the area to an appearance that would blend back into the overall landscape context.
APM AES-3: Non-Reflective Finish	LSTs and TSPs would be constructed of steel that was galvanized and treated at the factory to create a dulled finish that would reduce reflection of light off of the tower members. As appropriate to the environment, the galvanized coating would also be treated to allow the towers to blend into the backdrops. Non-specular transmission cable would be installed for the new transmission line to minimize conductor reflectivity.
APM AES-4: Regrade / Revegetate Construction Sites	Areas around new or rebuilt transmission and subtransmission structures that must be cleared during the construction process would be regraded and revegetated to restore them to an appearance that would blend back into the overall landscape context.
APM AES-5: Use Existing Access Roads	To the extent feasible, existing access roads would be used.
APM AES-6: Minimize Road Modifications.	Widening and grading of roads would be kept to the minimum required for access by proposed project construction equipment.
APM AES-7: Dust Suppression	During the construction period, dust suppression measures would be used to minimize the creation of dust clouds potentially associated with the use of the access roads.

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
APM AES-8: Substation Lighting Control	The substation lighting would be designed to be manually operated only when required for non-routine nighttime work. The lighting would be directed downward and shielded to eliminate offsite light spill at times when the lighting might be in use.
<b>Air Quality</b>	
	The applicant has not proposed any measures related to air quality or air emission reduction for the proposed project beyond what is required by applicable regulation.
<b>Biological Resources</b>	
APM BIO-1: Preconstruction Surveys	Preconstruction biological clearance surveys would be conducted by qualified biologists to identify special-status plants and wildlife.
APM BIO-2: Minimize Vegetation Impacts	Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for avoidance.
APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands	Construction crews would avoid impacting the streambeds and banks of streams along the route to the extent possible. If necessary, an SAA would be secured from the CDFG. Impacts would be mitigated based on the terms of the SAA. No streams with flowing waters capable of supporting special-status species would be expected to be impacted by the proposed project.
APM BIO-4: Best Management Practices	Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction operations.
APM BIO-5: Biological Monitors	Biological monitors would be assigned to the project in areas of sensitive biological resources. The monitors would be responsible for ensuring that impacts on special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities would need to be restricted in order to protect native plants and wildlife or special-status species. Those restricted areas would be monitored to ensure their protection during construction.
APM BIO-6: Worker Environmental Awareness Program	A Worker Environmental Awareness Program (WEAP) would be prepared. All construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all trained personnel would be maintained.
APM BIO-7: Avoid Impacts on Active Nests	SCE would conduct project-wide raptor and nesting bird surveys and remove trees or other vegetation, if necessary, outside of the nesting season (nesting season in the project area is late February to early July). If vegetation or existing structures containing a raptor nest or other active nest needed to be removed during the nesting season, or if work was scheduled to take place in close proximity to an active nest on an existing transmission or subtransmission tower or pole, SCE would coordinate with the USFWS, CDFG, and/or the NDOW as appropriate to obtain written verification prior to moving the nest.
APM BIO-8: Avian Protection	All transmission and subtransmission towers and poles would be designed to be avian-safe in accordance with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (APLIC 2006).
APM BIO-9: Facility Siting	Final tower and spur road locations would be adjusted to avoid sensitive biological resources to the greatest extent feasible.

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
APM BIO-10: Invasive Plant Management	An invasive plant management plan would be developed to reduce the potential for spreading invasive plant species during construction activities.
APM BIO-11: Desert Tortoise Measures	<ul style="list-style-type: none"> <li>• A field contact representative would be designated and would oversee compliance monitoring activities and coordination with authorizing agency(s). Compliance activities would at a minimum include conducting preconstruction surveys, assuring proper removal of desert tortoise, staffing biological monitors on construction spreads, and upholding all conditions authorized. The field contact representative would also oversee all compliance documentation including daily observation reports, non-compliance and corrective action reports, and final reporting to any authorized agency upon project completion.</li> <li>• All work area boundaries associated with temporary and permanent disturbances would be conspicuously staked, flagged, or marked to minimize surface disturbance activities. All workers would strictly limit activities and vehicles to the designated work areas.</li> <li>• Crushing/removal of perennial vegetation in work areas would be avoided to the maximum extent practicable.</li> <li>• All trash and food items generated by construction and maintenance activities would be promptly contained and regularly removed from the project site(s) to reduce the attractiveness of the area to common ravens.</li> <li>• Pets would not be allowed in working areas unless restrained in a kennel.</li> <li>• Where possible, motor vehicles would be limited to maintained roads and designated routes.</li> <li>• Vehicle speed within the project area, along ROW maintenance routes, and along existing access roads would not exceed 20 miles per hour. Speed limits would be clearly marked and all workers would be made aware of these limits.</li> <li>• Constructed road berms would be less than 12 inches in height and have slopes of less than 30 degrees.</li> <li>• Construction monitoring would employ a designated field contact representative, authorized biologist(s), and qualified biologist(s) approved by the BLM during the construction phase. At a minimum, qualified biologist(s) would be present during all activities in which encounters with tortoises could occur. A qualified biologist is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. An authorized biologist is defined as a wildlife biologist who has been authorized to handle desert tortoises by the USFWS or CDFG. A field contact representative is defined as a person designated by the project proponent who is responsible for overseeing compliance with desert tortoise protective measures and for coordination with agency compliance officer(s).</li> <li>• Preconstruction clearance surveys would be conducted within 48 hours of initiation of site-specific project activities, following USFWS protocol (USFWS 1992). The goal of a clearance survey is to find all tortoises on the surface and in burrows that could be harmed by construction activities. Surveys would cover 100% of the acreage to be disturbed. All potential tortoise burrows within 100 feet of construction activity would be marked. Tortoise burrows would be avoided to the extent practicable, but would be excavated if they would be crushed by construction activities.</li> </ul>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<p>APM BIO-11: Desert Tortoise Measures (Cont.)</p>	<ul style="list-style-type: none"> <li>• Any tortoise found on the surface would be relocated to less than 1,000 feet away. Tortoises would be handled carefully following the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises would be handled with new latex gloves each time to avoid transmission of disease, and handlers would especially note guidelines for precautions to be taken during high-temperature periods.</li> <li>• If a potential tortoise burrow were required to be excavated, the biologist would proceed according to the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises removed from burrows would be relocated to an artificial burrow (Desert Tortoise Council 1999). The entrance of the artificial burrow would be blocked until construction activities in the area were over (Desert Tortoise Council 1999).</li> <li>• For activities conducted between March 15 and November 1 in desert tortoise habitat, all activities in which encounters with tortoises might occur would be monitored by a qualified or authorized biologist. The biologist would be informed of tortoises relocated during preconstruction surveys so that he or she could watch for the relocated tortoises in case they attempted to return to the construction site. The qualified or authorized biologist would watch for tortoises wandering into the construction areas, check under vehicles, examine excavations and other potential pitfalls for entrapped animals, examine exclusion fencing, and conduct other activities to ensure that death or injuries of tortoises was minimized.</li> <li>• No overnight hazards to desert tortoises (e.g., auger holes, trenches, pits, or other steep-sided depressions) would be left unfenced or uncovered; such hazards would be eliminated each day prior to the work crew and biologist leaving the site. Large or long-term project areas would be enclosed with tortoise-proof fencing. Fencing would be removed when restoration of the site was completed.</li> <li>• Any incident occurring during project activities which was considered by the biological monitor to be in non-compliance with the mitigation plan would be documented immediately by the biological monitor. The field contact representative would ensure that appropriate corrective action was taken. Corrective actions would be documented by the monitor. The following incidents would require immediate cessation of the construction activities causing the incident, including (1) imminent threat of injury or death to a desert tortoise; (2) unauthorized handling of a desert tortoise, regardless of intent; (3) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (4) conducting any construction activity without a biological monitor where one was required. If the monitor and field contact representative did not agree, the federal agency's compliance officer would be contacted for resolution. All parties could refer the resolution to the federal agency's authorized officer.</li> <li>• All construction personnel, including subcontractors, would undergo a WEAP. This instruction would include specific desert tortoise training on distribution, general behavior and ecology, identification, protection measures, reporting requirements, and protections afforded by state and federal endangered species acts.</li> </ul>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<p>APM BIO-11: Desert Tortoise Measures (Cont.)</p>	<ul style="list-style-type: none"> <li>• Parked vehicles would be inspected prior to being moved. If a tortoise were found beneath a vehicle, the authorized biologist would be contacted to move the animal from harm's way, or the vehicle would not be moved until the desert tortoise left of its own accord. The authorized biologist would be responsible for taking appropriate measures to ensure that any desert tortoise moved in this manner was not exposed to temperature extremes that could be harmful to the animal.</li> <li>• Should any desert tortoise be injured or killed, all activities would be halted, and the field contact representative and/or authorized biologist immediately contacted. The field contact representative and/or authorized biologist would be responsible for reporting the incident to the authorizing agencies.</li> <li>• A report to the USFWS would be produced reporting all tortoises seen, injured, killed, excavated, or handled. GPS locations of live tortoises would be reported.</li> <li>• The applicant would implement a Raven Management Program that would consist of: (1) an annual survey to identify any tortoise remains at the base of the towers; this information would be relayed to the BLM so that the ravens and/or their nests in these towers could be targeted for removal, (2) SCE making an annual or one time contribution to an overall raven reduction program in the California or Nevada desert, with an emphasis on raven removal in the vicinity of this project.</li> </ul>
<p>APM BIO-12: Desert Bighorn Sheep Measures</p>	<p>The applicant would consult with the BLM, USFWS, and NDOW regarding conservation measures to avoid impacts on desert bighorn sheep during construction. Project areas with the potential to impact bighorn sheep include the proposed transmission line route through the McCullough Mountains and the telecommunication route segment in the southern Eldorado Valley between the Highland Range and the Southern McCullough Mountains. Avoidance and minimization measures could include such elements as preconstruction surveys, biological monitoring, and timing construction activities to avoid bighorn sheep active seasons. Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the propose route in the McCullough Mountains (June through September).</p>
<p>APM BIO-13: Western Burrowing Owl Measures</p>	<p>Where project ground-disturbing activities would occur prior to the burrowing owl breeding season (mid-March to August), all burrows, holes, crevices, or other cavities in suitable habitat on the project, within the limits of proposed ground disturbance, would be thoroughly inspected by a qualified biologist before collapsing. This would discourage owls from breeding on the construction site. Other species using burrows would be relocated prior to collapsing burrows. If construction were to be initiated after the commencement of the breeding season and burrowing owls could be seen within areas to be affected by ground construction activities, behavioral observations would be done by a qualified biologist to determine their breeding status. If breeding were observed, the nest area would be avoided, with an appropriately sized buffer sufficient to prevent disturbance during construction activities until the chicks fledged.</p>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<p>APM BIO-14: Gila Monster and Chuckwalla Measures</p>	<p>The following measures are the current NDOW construction site protocols for the Gila monster (NDOW 2005). These protocols are applicable for the Gila monster in both the Nevada and California sections of the project, and applicable for the chuckwalla in the Nevada section of the project.</p> <p>Through the WEAP, workers and other project personnel should (at a minimum) know how to: (1) identify Gila monsters and be able to distinguish them from other lizards such as chuckwallas and banded geckos; (2) report any observations of Gila monsters (in Nevada) to the biological monitor for notification of the NDOW; (3) be alerted to the consequences of a bite resulting from carelessness or unnecessary harassment; and (4) be aware of protective measures provided under state law.</p> <ul style="list-style-type: none"> <li>• Live Gila monsters found in harm's way on the construction site would be captured and then detained in a cool, shaded environment (&lt;85 degrees Fahrenheit) by the project biologist or equivalent personnel until a NDOW biologist can arrive for documentation purposes. Despite the fact that a Gila monster is venomous and can deliver a serious bite, its relatively slow gait allows for it to be easily coaxed or lifted into an open bucket or box, carefully using a long handled instrument such as a shovel or snake hook (note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW will clarify logistical points).</li> <li>• A clean 5-gallon plastic bucket with a secure, vented lid; an 18-inch x 18-inch x 4-inch plastic sweater box with a secure, vented lid; or a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location (e.g., GPS record), date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, and substrate) would also be provided to NDOW.</li> <li>• Injuries to Gila monsters may occur during excavation, road grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses would not be covered by NDOW. However, NDOW would be immediately notified during normal business hours. If an animal is killed or found dead, the carcass would be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, habitat, and mapped location.</li> <li>• Should NDOW's assistance be delayed, biological or equivalent acting personnel on site may be requested to remove and release the Gila monster out of harm's way. Should NDOW not be immediately available to respond for photo-documentation, a 35-mm camera or equivalent (5 mega-pixel digital minimum preferred) would be used to take good quality images of the Gila monster in situ at the location of live encounter or dead salvage. The pictures, preferably on slide film (.tif or .jpg digital format) would be provided to NDOW. Pictures would include the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).</li> </ul>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<b>Cultural Resources</b>	
<b>APM CR-1:</b> Conduct Archaeological Inventory of Areas that May Be Disturbed	Conduct an intensive archaeological inventory of all areas that may be disturbed during construction and operation of the proposed project. A complete cultural resources inventory of the project area has been conducted, details of which are contained in a technical report. Should the project substantially change and areas not previously inventoried for cultural resources become part of the construction plan, the applicant would ensure that such additional areas are inventoried for cultural resources prior to any disturbance. All surveys would be conducted and documented according to applicable laws, regulations, and professional standards.
<b>APM CR-2:</b> Avoid and Minimize Impacts on Significant Cultural Resources Wherever Feasible	Avoid and minimize impacts on significant or potentially significant cultural resources wherever feasible. To the extent practical, the applicant would avoid or minimize impacts on archaeological resources, regardless of its CRHR or NRHP eligibility status. This includes siting all ground-disturbing activities and other project components outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the right-of-way.
<b>APM CR-2a.</b> Avoid Direct Impacts on Significant Cultural Resources through Project Final Design	Project Final Design would avoid direct impacts on significant or potentially significant cultural resources. To the extent practical, all ground-disturbing activities and other project components would be sited to avoid or minimize impacts on cultural resources listed as or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.
<b>APM CR-2b.</b> Conduct a Preconstruction Worker Environmental Awareness Program (see BIO-6, PALEO-3, and W-11)	The program would be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the Worker Environmental Awareness Program.
<b>APM CR-2c.</b> Protective Buffer Zones	Establish and maintain a protective buffer zone around each recorded archaeological site within or immediately adjacent to the right-of-way. A protective buffer zone would be established around each recorded archaeological site and treated as an “environmentally sensitive area” within which construction activities and personnel are not permitted. Monitoring would be conducted to ensure that the protective areas are maintained.
<b>APM CR-3.</b> Evaluate Significance of Unavoidable Cultural Resources	Evaluate the significance of all cultural resources that cannot be avoided. Cultural resources that cannot be avoided and which have not been evaluated to determine their eligibility for listing in the CRHR or NRHP would be evaluated to determine their historical significance. Evaluation studies would be conducted and documented according to applicable laws, regulations, guidelines, and professional standards.
<b>APM CR-3a.</b> Evaluate Significance of Potentially Eligible Archaeological Resources	Evaluate the significance of archaeological resources potentially eligible for CRHR or NRHP listing. Evaluation of archaeological sites could include scientific excavation of a sample of site constituents sufficient to understand the potential of a site to yield information to address important scientific research questions per CRHR eligibility Criterion 4 and NRHP eligibility Criterion D. Sites with rock art would be evaluated to consider their eligibility per CRHR Criterion 1 and NRHP Criteria A, C, and D.
<b>APM CR-3b.</b> Evaluate Significance of Potentially Eligible Buildings and Structures	Evaluate the significance of buildings and structures potentially eligible for CRHR or NRHP listing. Evaluation would take into account engineering, aesthetic, architectural, and other relevant attributes of each property. Buildings and structures would be evaluated for historical significance per CRHR eligibility Criteria 1, 2, and 3, and NRHP Criteria A, B, and C. A report of the evaluation of each building or structure would be prepared providing a rationale for an assessment of significance consistent with professional standards and guidelines. The report would be filed with the appropriate Information Center of

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<p><b>APM CR-3c.</b> Assist with Native American Consultations</p>	<p>the California Historical Resources Information System.</p> <p>If necessary, the applicant would assist BLM in consultations with Native Americans regarding traditional cultural values that may be associated with locations within the APE. Archaeological or other cultural resources associated with the project may have cultural values ascribed to them by Native Americans. The applicant would assist the BLM during consultation with Native Americans regarding Native American cultural remains.</p>
<p><b>APM CR-4.</b> Minimize Unavoidable Impacts on Significant Cultural Resources, including Unique Archaeological Sites, Historical Resources, and Historic Properties</p>	<p>The applicant would make reasonable efforts to avoid adverse project effects to unique archaeological sites, historical resources, and historic properties. Nevertheless, it may not be possible to situate all proposed project facilities to completely avoid impacts on significant cultural resources. Impacts on significant cultural resources would be minimized by implementing the measures listed in APM CR-4a.</p>
<p><b>APM CR-4a.</b> Implement Measures to Minimize Impacts on Significant Archaeological Sites</p>	<p>Prior to construction and during construction, the following measures would be implemented by the applicant to minimize unavoidable impacts on significant archaeological sites:</p> <ul style="list-style-type: none"> <li>• To the extent practical, all activities would minimize ground surface disturbance within the bounds of significant archaeological sites, historical resources, or historic properties.</li> <li>• Portions of significant archaeological sites, historical resources, or historic properties that can be avoided would be protected as environmentally sensitive areas and would remain undisturbed by construction activities.</li> <li>• Monitoring by qualified professionals and/or Native Americans to ensure that impacts on sites are minimized would be carried out at each affected cultural resource for the period during which construction activities pose a potential threat to the site, and for as long as there is the potential to encounter unanticipated cultural or human remains.</li> <li>• Additional archaeological studies would be carried out at appropriate sites to ascertain whether project facilities could be located on a portion of a site and cause the least amount of disturbance to significant cultural materials.</li> <li>• If impacts on significant archaeological (NRHP- or CRHR-eligible) sites eligible under NRHP Criterion D or CRHR Criterion 4 cannot be avoided, archaeological data recovery would be carried out in the portions of affected significant sites that would be impacted. A data recovery plan would be prepared, reviewed by the appropriate agencies, and then implemented in order to recover an adequate sample of cultural remains that can be used to address important eligibility research questions for CRHR Criterion 4 or NRHP Criterion D. Archaeological data recovery would involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; and preparation of a scientific technical report that describes the methods and results of the data recovery program.</li> <li>• Reports of any excavations at archaeological sites would be filed with the BLM and the appropriate Information Center of the California Historical Resources Information System.</li> </ul>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<p><b>APM CR-4b.</b> Implement Measures to Minimize Impacts on Significant Buildings and Structures</p>	<p>Prior to construction and during construction, the applicant would implement the following measures to minimize unavoidable impacts on significant buildings and structures:</p> <ul style="list-style-type: none"> <li>• Locate proposed project facilities to minimize effects on significant buildings or structures.</li> <li>• If impacts on significant buildings or structures cannot be avoided, document significant architectural and engineering attributes consistent with the documentation standards of the National Park Service Historic American Buildings Survey/Historic American Engineering Record.</li> <li>• File reports and other documentation with the BLM, National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System.</li> </ul>
<p><b>APM CR-5.</b> Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan</p>	<p>During construction it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the applicant would prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan would detail the following elements:</p> <ul style="list-style-type: none"> <li>• Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area, and the implications of disturbance and collection of cultural resources pursuant with the Archaeological Resources Protection Act of 1979</li> <li>• Worker and supervisor response procedures to be followed in the event of an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions about the potential significance of any find</li> <li>• Identities of persons authorized to stop or redirect work that could affect the discovery, and their on-call contact information</li> <li>• Procedures for monitoring construction activities in archaeologically sensitive areas</li> <li>• A minimum radius around any discovery within which work would be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate</li> <li>• Procedures for identifying and evaluating the historical significance of a discovery</li> <li>• Procedures for consulting Native Americans when identifying and evaluating the significance of discoveries involving Native American cultural materials</li> <li>• Procedures to be followed for treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans.</li> </ul>
<p><b>APM CR-6.</b> Inadvertent Discovery of Human Remains</p>	<p>Any human remains discovered during project activities in California would be protected in accordance with current state law, specifically Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641. If human remains determined not to be Native American are unclaimed, they would be treated under the appropriate State of Nevada statutes, including but not limited to Nevada Revised Statutes Chapter 440 and the regulations of the applicable land management agency. In the event that human remains are recovered on private lands, the landholder would have the right to designate the repository for the remains if they are determined not to be Native American or if their family affiliation cannot be determined.</p> <p>The provisions of the Native American Grave Protection and Repatriation Act are applicable when Native American human remains are found on federal land (BLM land in California and Nevada). The discovery of human remains would be treated as defined in the Construction Monitoring and Unanticipated Cultural</p>

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
	Resources Discovery Plan.
APM CR-7. Native American Participation	Prior to construction, BLM would consult with Native Americans identified by the NAHC as having cultural ties to particular areas of the proposed project. Native Americans would be invited to participate in significance evaluations and data recovery excavations at archaeological sites with Native American cultural remains, as well as in monitoring during project construction. Native Americans would be consulted to develop a protocol for working with each group should human remains affiliated with that group be encountered during project activities.
<b>Geology, Soils, Minerals, and Paleontology</b>	
APM GEO-1: Geotechnical Engineering and Engineering Geology Study	Prior to final design of substation facilities and transmission and subtransmission line tower foundations, a combined geotechnical engineering and engineering geology study would be conducted to identify site-specific geologic conditions and potential geologic hazards in sufficient detail to support sound engineering practices.
APM GEO-2: Recommended Practices for Seismic Design of Substations	For new substation construction, specific requirements for seismic design would be followed based on the Institute of Electrical and Electronics Engineers (IEEE) Standards Association Standard 693, "Recommended Practices for Seismic Design of Substations," which includes probabilistic earthquake hazard analysis. Other project elements would be designed and constructed in accordance with the appropriate industry standards, as well as good engineering and construction practices and methods.
APM GEO-3: Project Construction Stormwater Pollution Prevention Plan Protection Measures Regarding Soil Erosion / Water Quality	Transmission line and substation construction activities would be conducted in accordance with the soil erosion/water quality protection measures to be specified in the project construction stormwater pollution prevention plan (SWPPP). New access roads would be designed to minimize ground disturbance from grading. They would follow natural ground contours as closely as possible, and would include specific features for road drainage. Measures could include water bars, drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings would be constructed, they would be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area.
APM PALEO-1: Retention of Paleontologist and Preparation of a Paleontological Resource Management Plan	Prior to construction, a certified paleontologist would be retained by SCE to supervise monitoring of construction excavations and to produce a Paleontological Resource Management Plan (PRMP) for the proposed project. This PRMP would be prepared and implemented under the direction of the paleontologist and would address and incorporate APMs PALEO-2 through PALEO-8. Paleontological monitoring would include inspection of exposed rock units and microscopic examination of matrix to determine whether fossils are present. The monitor would have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens. More specific guidelines for paleontological resource monitoring could be found in the PRMP.
APM PALEO-2: Pre-construction Paleontological Field Survey	The paleontologist and/or his or her designated representative would conduct a pre-construction field survey of the project area underlain by Tertiary rock units and older alluvium. Results of the field inventory and associated recommendations would be incorporated into the PRMP.
APM PALEO-3: Worker Environmental Awareness Program (see BIO-6, CR-2b, W-11)	A Worker Environmental Awareness Program would be provided to construction supervisors and crew for awareness of requirements regarding the protection of paleontological resources and procedures to be implemented in the event fossil remains are encountered by ground-disturbing activities.
APM PALEO-4: Construction Monitoring	Ground-disturbing activities would be monitored on a part-time or full-time basis by a paleontological construction monitor only in those parts of the project area where these activities would disturb previously undisturbed strata in rock units of moderate and high sensitivity. Quaternary alluvium, colluvium, and Quaternary landslide deposits have a low paleontological sensitivity level and would be spot-

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
	checked on a periodic basis to ensure that older underlying sediments were not being penetrated. Monitoring would not be implemented in areas underlain by younger alluvium unless these activities had reached a depth 5 feet below the present ground surface and fine-grained strata were present. Ground-disturbing activities in areas underlain by rock units of low sensitivity would be monitored on a quarter-time basis or spot-checked if fine grained strata were present.
APM PALEO-5: Recovery and Testing	If fossils were encountered during construction, construction activities would be temporarily diverted from the discovery and the monitor would notify all concerned parties and collect matrix for testing and processing as directed by the project paleontologist. In order to expedite removal of fossil-bearing matrix, the monitor may request heavy machinery to assist in moving large quantities of matrix out of the path of construction to designated stockpile areas. Construction would resume at the discovery location once the necessary matrix was stockpiled, as determined by the paleontological monitor. Testing of stockpiles would consist of screen washing small samples to determine if important fossils were present. If such fossils were present, the additional matrix from the stockpiles would be water screened to ensure recovery of a scientifically significant sample. Samples collected would be limited to a maximum of 6,000 pounds per locality.
APM PALEO-6: Monthly Progress Reports	The project paleontologist would document interim results of the construction monitoring program with monthly progress reports. Additionally, at each fossil locality, field data forms would record the locality, stratigraphic columns would be measured, and appropriate scientific samples would be submitted for analysis.
APM PALEO-7: Analysis of and Preparation of Final Paleontological Resource Recovery Report	The project paleontologist would direct identification, laboratory processing, cataloging, analysis, and documentation of the fossil collections. When appropriate, and in consultation with SCE, splits of rock or sediment samples would be submitted to commercial laboratories for microfossil, pollen, or radiometric dating analysis. After analysis, the collections would be prepared for curation (see APM PALEO-8). A final technical report would be prepared to summarize construction monitoring and present the results of the fossil recovery program. The report would be prepared in accordance with SCE, Society of Vertebrate Paleontology guidelines, and lead agency requirements. The final report would be submitted to SCE, the lead agency, and the curation repository.
APM PALEO-8: Curation	Prior to construction, SCE would enter into a formal agreement with a recognized museum repository, and would curate the fossil collections, appropriate field and laboratory documentation, and final Paleontological Resource Recovery Report in a timely manner following construction.
<b>Hazards, Health and Safety</b>	
APM HAZ-1: Phase I ESA	A Phase I ESA would be performed at each new or expanded substation location and along newly acquired transmission or subtransmission line ROWs. The Phase I ESAs would include an electronic records search of federal, state, and local databases. The electronic records search would be contracted to a company that specializes in this type of work and that would produce a comprehensive report for the new or expanded ROW. The comprehensive report is used to identify sites in federal, state, and local government agency databases that may have the potential to impact the proposed project; based on a review of the report, any potential areas of concern along the ROW would be identified for further assessment. In addition, a Phase I ESA that is compliant with American Society for Testing Materials (ASTM) 1927-05 (ASTM 2005) would be performed on all property to be acquired. Based on the results of the Phase I ESA, additional assessment, characterization, and remediation of potential or known subsurface impacts may be conducted prior to construction activities. Such remediation could include the relocation of transmission line structures as necessary to avoid impacted areas, or the removal and disposal of impacted soils and/or groundwater according to applicable regulations.

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
APM HAZ-2: Hazardous Materials and Waste Handling Management.	The applicant would develop programs and policies for management of hazardous materials including a Hazardous Materials and Hazardous Waste Handling Program, Construction Stormwater Pollution Prevention Plan, and procedures for Transport of Hazardous Materials, Fueling and Maintenance of Construction Equipment, Fueling and Maintenance of Helicopters, and Emergency Release Response. This Plan would be valid during project construction and operation.
APM HAZ-3: Soil Management Plan	The applicant would develop a Soil Management Plan that would provide guidance for the proper handling, onsite management, and disposal of impacted soil that might be encountered during construction activities.
APM HAZ-4: Fire Management Plan	The applicant would implement a Fire Management Plan.
APM HAZ-5: Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan.	The applicant would implement a Spill Prevention, Countermeasure, and Control Plan (SPCCP) for preventing, containing, and controlling potential releases; provisions for quick and safe cleanup and a Hazardous Materials Business Plan (HMBP) that would include hazardous waste management procedures; and emergency response procedures including emergency spill cleanup supplies and equipment. This plan would be valid during project construction and operation.
<b>Hydrology and Water Quality</b>	
APM W-1: Avoid Stream Channels	Construction equipment would be kept out of flowing stream channels.
APM W-2: Erosion Control and Hazardous Material Plans	Erosion control and hazardous material plans would be incorporated into the construction bidding specifications to ensure compliance.
APM W-3: Project Design Features	Appropriate design of tower footing foundations, such as raised foundations and/or enclosing flood control dikes, would be used to prevent scour and/or inundation by a 100-year flood. Where floodplain encroachment is required by the CPUC and/or the BLM, and potential impacts require non-standard designs, hydrology/channel flow analysis would be performed.
APM W-4: Avoid Active Drainage Channels	Towers would be located to avoid active drainage channels, especially downstream of steep hillslope areas, to minimize the potential for damage by flash flooding and mud and debris flows.
APM W-5: Diversion Dikes	Diversion dikes would be required to divert runoff around a tower structure or a substation site if (a) the location in an active channel (or channels) could not be avoided; and (b) where there is a very significant flood scour/deposition threat, unless such diversion is specifically exempted by the CPUC and/or the BLM Authorized Officer.
APM W-6: Collect and Divert Runoff	Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes.
APM W-7: Ditch and Drainage Design	Ditches and drainage devices would be designed to handle the concentrated runoff and located to avoid disturbed areas. They would have energy dissipations at discharge points that might include rip-rap, concrete aprons, and stepped spillways. Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes would be designed to avoid increasing the risk of erosion or flooding onto adjacent property.
APM W-8: Minimize Cut and Fill Slopes	Cut and fill slopes would be minimized by a combination of benching and following natural topography where possible.
APM W-9: Prepare and Implement an Approved SWPPP	As a part of the SWPPP, soil disturbance at tower construction sites and access roads would be the minimum necessary for construction and designed to prevent long-term erosion through the following activities: restoration of disturbed soil, re-vegetation, and/or construction of permanent erosion control structures. BMPs in the project SWPPP would be implemented during construction to minimize the risk of an accidental release.
APM W-10: Emergency Release Response Procedures	The Emergency Release Response Procedures developed pursuant to APM Haz-1 would be maintained onsite (or in vehicles) during construction of the proposed project.

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<b>APM W-11:</b> Conduct a Worker Environmental Awareness Program (see BIO-6, CR-2b, PALEO-3)	A Worker Environmental Awareness Program (WEAP) would be conducted to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper BMP implementation, to all field personnel prior to the start of construction. This training program would emphasize site-specific physical conditions to improve hazard prevention. It would include a review of all site-specific plans, including but not limited to the project's SWPPP and Hazardous Substances Control and Emergency Response Plan. The applicant would document compliance and maintain a list of names of all construction personnel who had completed the training program.
<b>APM W-12:</b> Properly Dispose of Hazardous Materials	All construction and demolition waste, including trash and litter, garbage, and other solid waste, would be removed and transported to an appropriately permitted disposal facility. Petroleum products and other potentially hazardous materials would be removed and transported to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.
<b>APM W-13:</b> Identify Location of Underground Utilities Prior to Excavation	Prior to excavation, the applicant or its contractors would locate overhead and underground utility lines, such as natural gas, electricity, sewage, telephone, fuel, and water lines, or other underground structures that may reasonably be expected to be encountered during excavation work.
<b>APM W-14:</b> Prepare or Update SPCC Plans	The applicant would prepare or update SPCC plans for substations to minimize, avoid, and/or clean up unforeseen spill of hazardous materials during facility operations.
<b>Land Use</b>	
<b>APM LU-1:</b> Aeronautical Considerations	The applicant would submit notice to FAA electronically, in accordance with FAA procedures, and as far in advance of construction as possible.
<b>Noise</b>	
<b>APM NOI-1:</b> Compliance with Local Noise Ordinances	The proposed construction would comply with local noise ordinances. There may be a need to work outside the aforementioned local ordinances to take advantage of low electrical draw periods during the nighttime hours. The applicant would comply with variance procedures requested by local authorities if required.
<b>APM NOI-2:</b> Construction Equipment Working Order	Construction equipment would be in good working order.
<b>APM NOI-3:</b> Construction Equipment Maintenance	Construction equipment would be maintained per manufacturer's recommendations.
<b>APM NOI-4:</b> Construction Equipment Muffled	Construction equipment would be adequately muffled.
<b>APM NOI-5:</b> Construction Equipment Idling Minimized	Idling of construction equipment and vehicles would be minimized during the construction.
<b>APM NOI-6:</b> Hearing Protection for Workers	Workers would be provided appropriate hearing protection, if necessary, as described in the Health and Safety Plan.
<b>Public Services and Utilities</b>	
<b>APM PUSVC-1:</b> Work Around High Pressure Pipelines	No mechanical equipment will be permitted to operate within 3 feet of the high-pressure pipelines, and work within 3 feet must be done by hand or as otherwise directed by the pipeline company.
<b>APM PUSVC-2:</b> Monitoring by Pipeline Companies	A representative of applicable owners and operators of major pipeline companies must observe the excavation around or near their facilities to ensure protection and to record pertinent data necessary for operations.

Table ES-4 Applicant Proposed Measures

Applicant Proposed Measure	Description
<b>Recreation</b>	
APM REC-1: Recreation Area Closures	When temporary short-term closures to recreational areas are necessary for construction activities, the applicant would coordinate those closures with recreational facility owners. To the extent practicable, the applicant would schedule construction activities to avoid heavy recreational use periods (e.g., holidays or tournaments). The applicant would post notice of the closure on-site 14 calendar days prior to the closure.
<b>Socioeconomics, Population and Housing, and Environmental Justice</b>	
	The applicant has not included any APMs related to socioeconomics, population and housing, or environmental justice for the proposed EITP.
<b>Traffic and Transportation</b>	
APM TRA-1: Obtain Permits	If any work requires modifications or activities within local roadway and railroad ROWs, appropriate permits will be obtained prior to the commencement of construction activities, including any necessary local permits and encroachment permits.
APM TRA-2: Traffic Management and Control Plans	Traffic control and other management plans will be prepared where necessary to minimize project impacts on local streets and railroad operations.
APM TRA-3: Minimize Street Use	Construction activities will be designed to minimize work on, or use of, local streets.

Key:

ASTM = American Society for Testing Materials  
 BLM = Bureau of Land Management  
 BMP = Best Management Practices  
 CDFG = California Department of Fish and Game  
 CPUC = California Public Utilities Commission  
 CRHR = California Register of Historical Resources  
 EITP = Eldorado–Ivanpah Transmission Project  
 FAA = Federal Aviation Administration  
 GPS = Global Positioning System  
 HMBP = Hazardous Materials Business Plan  
 LST = Lattice Steel Tower  
 NAHC = Native American Heritage Commission  
 NDOW = Nevada Department of Wildlife  
 NRHP = National Register of Historic Places  
 PRMP = Paleontological Resource Management Plan  
 ROW = Right-of-Way  
 SAA = Streambed Alteration Agreement  
 SCE = Southern California Edison  
 SPCC = Spill Prevention, Control, and Countermeasure  
 SPCCP = Spill Prevention, Control, and Countermeasure Plan  
 SWPPP = Stormwater Pollution Prevention Plan  
 TSP = Tubular Steel Poles  
 USFWS = U.S. Fish and Wildlife Service  
 WEAP = Worker Environmental Awareness Program

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## ES.8 Major Conclusions

Construction of the EITP would result in a number of temporary impacts that would cease upon completion of the construction phase. Operation and maintenance of the proposed project or its alternatives could also result in potential temporary and permanent impacts.

The Draft EIR/EIS has identified significant and unavoidable adverse impacts that could result from construction, operation, and maintenance of the proposed project, including impacts on biological resources. Potentially significant adverse impacts could also occur to air quality. Under NEPA, the proposed project would result in major, adverse, and unavoidable impacts to aesthetics and visual resources for one of the eight key observation points (KOPs) analyzed. With mitigation, impacts to aesthetics and visual resources would be less than significant under CEQA. All other EITP

- 1 impacts were determined to be less than significant, or could be reduced to a less than significant level with
- 2 implementation of the mitigation measures proposed in the EIR/EIS.
- 3
- 4 A list of potential impacts that could result from construction, operation, and maintenance of the proposed EITP is
- 5 provided in Table ES-5 and further discussed in Sections 3.2 through 3.14.
- 6

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>3.2 Aesthetics and Visual Resources</b>							
<b>IMPACT AES-1: Adverse Impact to a Scenic Vista</b>	<p>Designated scenic vistas do not occur in the proposed project area.</p> <p>Construction would result in temporary generation of fugitive dust that would be visible within a Visual Resource Management (VRM) Class II area and from both the South McCullough Wilderness Area and the Wee Thump Joshua Tree Wilderness Area.</p> <p>The telecommunications Path 2, Section 1 would not be discernable as there is already an existing 500-kV transmission line in the viewshed.</p>	Less than significant without mitigation	<p>There are no designated scenic vistas in the vicinity of the proposed project; however, for the purposes of this analysis, the South McCullough Wilderness Area is treated as designated scenic vistas because the BLM manages these lands according to the most stringent restrictions to protect visual resources.</p> <p>For KOP 1 and KOP 2, no cumulative projects would be visible from this location, so no cumulative impact would occur.</p>	Not cumulatively considerable	<p><b>APM AES-1:</b> Road Cut Rock Staining</p> <p><b>APM AES-2:</b> Seeding and Inter-Planting</p> <p><b>APM AES-3:</b> Non-Reflective Finish</p>	NA	<p><b>Construction:</b> Minor adverse effects to visual resources temporarily due to construction activities. Aboveground construction– Minor, adverse, temporary effects to viewshed. Belowground construction– Temporary, moderate effects to viewshed.</p> <p><b>O&amp;M:</b> Minor, adverse, permanent effects to viewshed due to the introduction of taller towers and new structures, including the proposed Ivanpah Substation and the microwave tower.</p> <p>Of the eight KOP's evaluated, seven would conform with the established VRM or VRI classes and one would not conform</p> <p>In addition to APM AES-1 through APM AES-8, additional mitigation would be required to lessen impacts on visual resources to the greatest extent possible.</p> <p>Mitigation measures AES-1 and AES-2 would lessen the contrast in color and line that would be introduced by construction of the Ivanpah Substation, as shown in KOP 8.</p>
<b>IMPACT AES-2: Degrade Existing Visual Character or Quality</b>	<p>Overall, the proposed project would not result in substantial degradation of the landscape.</p> <p>The proposed project would conflict with VRM or VRI objectives for one of the eight Key Observation Points (KOPs).</p> <p>At each of these locations, the proposed project would introduce strong levels of contrast with the existing structures in the viewshed by introducing linear elements of a larger scale and more prominent color.</p>	Less than significant with mitigation	<p>Temporary impacts on visual resources during construction would contribute incrementally to impacts on visual resources from the cumulative projects for KOP 4, KOP 5, KOP 6, and KOP 8 by introducing new color and line into views and by altering the existing texture of the landscape.</p> <p>During operations and maintenance, the proposed project would result in a moderate change in the color of the landform, and a moderate contrast with existing structures in the background of KOP 8.</p>	<p>Cumulatively considerable (construction)</p> <p>Moderate impact (O&amp;M)</p>	<p><b>APM AES-4:</b> Regrade / Revegetate Construction Sites</p> <p><b>APM AES-5:</b> Use Existing Access Roads</p> <p><b>APM AES-6:</b> Minimize Road Modifications.</p> <p><b>APM AES-7:</b> Dust Suppression</p>	<p><b>MM AES-1:</b> Painting the Ivanpah Substation</p> <p><b>MM AES-2:</b> Rock Staining near the Ivanpah Substation</p>	See above.
<b>IMPACT AES-3: Create a New Source of Light or Glare</b>	Lighting would only be installed for the proposed Ivanpah Substation, which would only be required for non-routine nighttime work and be shielded to eliminate off-site light spill (APM AES-8).	Less than significant without mitigation	Project lighting would be shielded, directed downward, and used only for emergency repairs or maintenance. The project's contribution to light and glare would be infrequent.	Not cumulatively considerable	<b>APM AES-8:</b> Substation Lighting Control	NA	See above.

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>3.3 Air Quality</b>							
<b>IMPACT AIR-1:</b> Conflict or Obstruct the Implementation of Applicable Air Quality Plan	Construction activities would not conflict with or obstruct implementation of the Mojave Desert Planning Area Air Quality Attainment Plan.  Construction emissions would be temporary and would be a small fraction of the regional emission inventory included in the plan.  No long-term impacts associated with operation and maintenance are anticipated for the proposed project.	Less than significant without mitigation	This impact was not considered cumulatively significant, since construction of the proposed project would not conflict with or obstruct implementation of the Mojave Desert Planning Area Air Quality Attainment Plan.	Not cumulatively considerable	The applicant has not proposed any measures related to air quality or air emission reduction for the proposed project beyond what is required by applicable regulation	N/A	<b>Construction:</b> Short-term, moderate impacts on ambient air quality.  Construction emissions would be a very small fraction of the regional emissions. The project could not conflict with or obstruct implementation of California or Nevada SIPs.  <b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.
<b>IMPACT AIR-2:</b> Temporary Ambient Air Quality Impacts Caused by Construction Activities Would Violate or Contribute Substantially to an Air Quality Violation	The estimated average daily emissions of PM <sub>2.5</sub> , PM <sub>10</sub> , and NO <sub>x</sub> from project construction activities would exceed the Mojave Desert Air Quality Management District (MDAQMD) daily significance thresholds. The comparison of average daily emissions to significance thresholds was based on conservative assumptions about daily equipment use.  Impacts would be limited to the duration of project construction; long-term and operational impacts would not occur.  Implementation of MM AIR-1 and MM AIR-2 would reduce potential impacts, but would not likely reduce emissions from construction activities to below the MDAQMD daily significance thresholds.	Significant	Foreseeable projects could exceed the daily construction emission thresholds for the same or different criteria pollutants as the EITP. The emissions would be localized to those locations under construction.  These temporary cumulative increases in criteria pollutants could lead or contribute to violations of ambient air quality standards.  Mitigation measures are not expected to reduce emissions from project construction activities to below the MDAQMD daily significance thresholds.	Cumulatively considerable (construction only)	The applicant has not proposed any measures related to air quality or air emission reduction for the proposed project beyond what is required by applicable regulation	<b>MM AIR-1:</b> Low-emission Construction Equipment.  <b>MM AIR-2:</b> Enhanced Dust Control Measures	<b>Construction:</b> Short-term, moderate impacts on ambient air quality.  PM <sub>2.5</sub> , PM <sub>10</sub> , and NO <sub>x</sub> emissions would temporarily exceed MDAQMD daily significance thresholds, even with MM AIR-1 and MM AIR-2.  <b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.
<b>IMPACT AIR-3:</b> Temporary Emission Increases of NO <sub>x</sub> , VOCs, and PM <sub>10</sub> during Construction Would Contribute to a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area	Project construction would occur in an area designated non-attainment for ozone and PM <sub>10</sub> . The estimates of average daily emissions of PM <sub>10</sub> and NO <sub>x</sub> from project construction activities exceed the Mojave Desert Air Quality Management District (MDAQMD) daily significance thresholds. The comparison of average daily emissions to significance thresholds was based on conservative assumptions about daily equipment use.  Mitigation measures MM AIR-1 and MM AIR-2 would be implemented to reduce potential impacts, but these mitigation measures would not likely reduce PM <sub>10</sub> and NO <sub>x</sub> emissions from construction activities to below the MDAQMD daily significance thresholds.	Significant	The estimated average daily emissions would exceed MDAQMD daily construction emission significance thresholds for NO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> . This threshold would not necessarily be exceeded daily, but it could be, if all components of the proposed project were to be constructed simultaneously.  In addition, increases in PM <sub>10</sub> , NO <sub>x</sub> , and VOCs from reasonably foreseeable future projects could contribute to a considerable net increase of criteria pollutants in a non-attainment area.	Cumulatively considerable (construction only)	The applicant has not proposed any measures related to air quality or air emission reduction for the proposed project beyond what is required by applicable regulation	<b>MM AIR-1:</b> Low-emission Construction Equipment.  <b>MM AIR-2:</b> Enhanced Dust Control Measures	<b>Construction:</b> Short-term, moderate impacts on ambient air quality.  PM <sub>2.5</sub> , PM <sub>10</sub> , and NO <sub>x</sub> emissions would temporarily exceed MDAQMD daily significance thresholds, even with MM AIR-1 and MM AIR-2.  <b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.
<b>IMPACT AIR-4:</b> Temporarily Expose Sensitive Receptors to Substantial Pollutant Concentrations	Diesel particulate emissions would be generated during project construction. The only receptor identified as being close to the proposed project construction area is the Desert Oasis Apartment Complex, where residents could be exposed to short-term increased pollutant concentrations.  The project would not be located near schools, day care centers, hospitals, or other sensitive receptors.	Less than significant without mitigation	Although possible, it is unlikely that reasonably foreseeable future projects would have overlapping construction schedules near the Desert Oasis Apartment Complex. Even if the construction schedules overlapped, construction activities would be only for several days in the area of potential exposure; therefore, there would not be a significant cumulative impact.	Not cumulatively considerable	The applicant has not proposed any measures related to air quality or air emission reduction for the proposed project beyond what is required by applicable regulation	N/A	<b>Construction:</b> Short-term, moderate impacts on ambient air quality.  <b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.
<b>IMPACT AIR-5:</b> Temporarily Create Objectionable Odors Due to Fuel Combustion that would Affect a Substantial Number of People	Odors created during construction from the combustion of fuel would likely not cause a perceptible odor to a substantial number of people. If perceptible, such impacts would be temporary and would be limited to the duration of the project construction period. Vehicle emissions during project operation would be minimal, so no objectionable odors are expected.	Less than significant without mitigation	As discussed above, although unlikely, the Calnev pipeline expansion could have an overlapping construction schedule at this location, but the overlap would only be for a day or two. Even if the construction schedules overlapped, construction activities would be only for several days in the area of potential exposure, there would not be a significant cumulative impact.	Not cumulatively considerable	N/A	N/A	<b>Construction:</b> Short-term, moderate impacts on ambient air quality.  <b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>IMPACT AIR-6:</b> Generate GHG Emissions That May Have A Significant Impact On The Environment	<p>GHG emissions increases that would result during the EITP operations would not be expected to individually have a significant impact on global climate change. Therefore, the impact of the generation of GHG emissions would be less than significant.</p> <p>Even though the generation of GHG emissions from the proposed project would be less than significant, the applicant would be required to follow and/or consider best management practices to reduce the potential for GHG emissions (see Mitigation Measure MM-AIR-3).</p>	Less than significant without mitigation	This analysis considered the proposed project's contribution to global climate change, which was determined to be less than significant. This analysis may change following the upcoming publication of the revised CEQA guidance on GHGs.	Not cumulatively considerable		<b>MM AIR-3:</b> Best Management Practices for GHG Reduction.	<p><b>Construction:</b> Short-term, moderate impacts on ambient air quality.</p> <p><b>O&amp;M:</b> No long-term impacts associated with operation and maintenance would occur.</p>
<b>3.4 Biological Resources</b>							
<b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species	<p>The proposed project would result in impacts on special-status plants. Implementation of MMs BIO-1, 2, and 3 would reduce impacts to less than significant because preconstruction surveys would identify the location of any special-status plants so they could be avoided by project activities.</p> <p>If plants could not be avoided, mitigation for impacts would occur in the form of salvage and/or restoration efforts for vegetation and soils.</p>	Less than significant with mitigation	<p>Impacts on habitat fragmentation could be significant when combined with impacts from other regional projects. The development of numerous large-scale projects would result in a substantial permanent conversion of desert habitat to industrial/commercial uses.</p> <p>EITP, in conjunction with other projects, would result in cumulative impacts on native vegetation communities, including cacti and yucca species, and adversely affect special management areas due to temporary and permanent habitat loss from ground disturbance and inadvertent distribution of noxious weeds.</p> <p>Cumulative impacts from the projects would primarily affect the desert valley vegetation, as most proposed disturbance is outside the tops of the mountain ranges.</p>	Cumulatively considerable	<p><b>APM BIO-1:</b> Preconstruction Surveys</p> <p><b>APM BIO-2:</b> Minimize Vegetation Impacts</p> <p><b>APM BIO-4:</b> Best Management Practices</p> <p><b>APM BIO-5:</b> Biological Monitors</p> <p><b>APM BIO-6:</b> Worker Environmental Awareness Program</p> <p><b>APM BIO-9:</b> Facility Siting</p> <p><b>APM AES-4:</b> Regrade / Revegetate Construction Sites</p> <p><b>APM AES-6:</b> Minimize Road Modifications</p> <p><b>APM AES 7:</b> Dust Suppression</p>	<p><b>MM BIO-1:</b> Preconstruction Surveys</p> <p><b>MM BIO-2:</b> Reclamation Plan</p> <p><b>MM BIO-3:</b> Special Status Plants Restoration and Compensation Plan</p>	<p><b>Construction and O&amp;M:</b> Adverse effects on biological resources.</p> <p>After mitigation, impacts on native desert vegetation and special-status plants would be minor and localized.</p>
<b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife	<p>Potential impacts on several special-status wildlife species and their habitat, including: reptiles, mammals, and birds, with potential for significant impacts to desert tortoise, desert bighorn sheep, American badger, and burrowing owl.</p> <p>Implementation of MMs BIO-8 through BIO-16 would reduce impacts to less than significant, except for desert tortoise; impacts to desert tortoise and its habitat would be significant even after mitigation.</p> <p>If avoidance of direct and indirect impacts to wildlife were not possible, those impacts would be mitigated by species-specific measures detailed in MMs BIO-12 through BIO-16.</p>	Significant	<p>The contribution of EITP to cumulative impacts on wildlife would be short term and limited due to the short duration of construction and the relatively small geographical extent of EITP's impact area.</p> <p>Cumulative impacts on biological resources could be exacerbated as a result of project schedules. Construction of multiple projects within the same time period can result in greater impacts from emissions, noise, construction equipment and vehicle traffic, and overall habitat degradation and loss.</p> <p>Removal of vegetation and/or long-term restoration efforts could negatively impact common and special status wildlife.</p> <p>If projects were to be constructed consecutively, project impacts would be reduced in intensity but</p>	Cumulatively considerable	<p><b>APM BIO-1:</b> Preconstruction Surveys</p> <p><b>APM BIO-4:</b> Best Management Practices</p> <p><b>APM BIO-5:</b> Biological Monitors</p> <p><b>APM BIO-6:</b> Worker Environmental Awareness Program</p> <p><b>APM BIO-10:</b> Invasive Plant Management</p> <p><b>APM AES-6:</b> Minimize Road Modifications</p> <p><b>APM AES-8:</b> Substation Lighting</p>	<p><b>MM BIO-8:</b> Reduce Night Lighting</p> <p><b>MM BIO-9:</b> Cover Steep-walled Trenches or Excavations During Construction</p> <p><b>MM BIO-10:</b> Biological Monitors</p> <p><b>MM BIO-11:</b> Water Usage</p> <p><b>MM BIO-12:</b> Desert Tortoise Impacts Reduction Measures</p> <p><b>MM BIO-13:</b> Desert Bighorn Sheep Impacts Reduction Measures</p> <p><b>MM BIO-14:</b> American Badger Impacts Reduction Measures</p>	<p><b>Construction and O&amp;M:</b> Adverse effects on biological resources.</p> <p>Direct and indirect impacts to wildlife would be reduced to minor and localized.</p> <p>Impacts on desert tortoise due to construction of the project would be adverse, moderate, both short term and long term, and localized.</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
			prolonged in duration, resulting in adverse impacts on the life cycles of species and/or resulting in prolonged or permanent displacement of wildlife from critical habitats.		Control APM NOI-4: Construction Equipment Muffled APM NOI-5: Construction Equipment Idling Minimized APM W-12: Properly Dispose of Hazardous Materials	MM BIO-15: Migratory Birds and Raptors Impacts Reduction Measures MM BIO-16: Burrowing Owl Impacts Reduction Measures	
<b>IMPACT BIO-3:</b> Temporary and permanent losses of native vegetation communities	Potential impacts on sensitive desert vegetation communities, including cacti and yucca species.  Implementation of MMs BIO-1 through BIO-3 would reduce impacts to less than significant with the use of preconstruction surveys, avoidance techniques, and post-construction restoration.	Less than significant with mitigation	EITP and other reasonably foreseeable future projects have the potential to have an adverse cumulative impact on populations and individuals of rare plant species such as Mojave milkweed, desert pincushion, Parish's club-cholla, white-margined beardtongue, rosy two-tone beardtongue, and Aven Nelson phacelia that occur within the cumulative effects area.  However, each of these projects have provided recommended mitigation measures such as avoidance, salvage, restoration, and compensation to reduce impacts to special status plants to less than significant.  Over the cumulative effects area, the EITP would have a negligible contribution to cumulative impacts to special status plant populations.	Not cumulatively considerable	APM BIO-1: Preconstruction Surveys APM BIO-2: Minimize Vegetation Impacts APM BIO-4: Best Management Practices APM BIO-5: Biological Monitors APM BIO-6: Worker Environmental Awareness Program APM BIO-9: Facility Siting APM BIO-10: Invasive Plant Management	MM BIO-1: Preconstruction Surveys MM BIO-2: Reclamation Plan MM BIO-3: Special Status Plants Restoration and Compensation	<b>Construction and O&amp;M:</b> Adverse effects on biological resources.  After mitigation implementation, impacts on native desert vegetation and special-status plants would be minor and localized.
<b>IMPACT BIO-4:</b> Introduction of invasive, non-native, or noxious plant species	Potential impacts on sensitive vegetation and wildlife communities if invasive, non-native, or noxious plant species were introduced and/or spread within the project area.  Implementation of MM BIO-4 would reduce impacts to less than significant with implementation of a rigorous Invasive Management Plan..	Less than significant with mitigation	Cumulative impacts on sensitive vegetation and wildlife communities would result if invasive, non-native, or noxious plant species were introduced and/or spread within the geographic extent area.  The contribution of EITP to these cumulative impacts would be short term and limited due to the short duration of construction and the relatively small geographical extent of EITP's impact area.	Not cumulatively considerable	APM BIO-1: Preconstruction Surveys APM BIO-2: Minimize Vegetation Impacts APM BIO-4: Best Management Practices APM BIO-5: Biological Monitors APM BIO-6: Worker Environmental Awareness Program APM BIO-9: Facility Siting APM BIO-10: Invasive Plant Management	MM BIO-4: Model Invasive Plant Management Plan on the BLM Las Vegas Office DRAFT Weed Plan	<b>Construction and O&amp;M:</b> Adverse effects on biological resources.  After mitigation implementation, impacts on native desert vegetation and special-status plants would be minor and localized.
<b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands	Potential impacts on jurisdictional waters, drainages, and wetlands. Implementation of MMs BIO-5 through BIO-7 would reduce impacts to less than significant level.  The applicant would perform a final jurisdictional determination to identify drainages and wetlands located within the proposed project area. These areas would then be avoided.	Less than significant with mitigation	Cumulative impacts from all projects on these resources could be significant. The contribution of EITP to these cumulative impacts would be short term and limited due to the short duration of construction and the relatively small geographical extent of EITP's impact area.	Not cumulatively considerable	APM BIO-2: Minimize Vegetation Impacts APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands	MM BIO-5: Jurisdictional Delineation MM BIO-6: Drainage Crossings Design MM BIO-7: Mitigation Monitoring	<b>Construction and O&amp;M:</b> Adverse effects on biological resources.

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Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
	If avoidance were not possible, drainage crossings would be engineered to reduce degradation and impacts (MM BIO-6) and restoration and compensation measures would be implemented (MM BIO-7).				<p><b>APM BIO-4:</b> Best Management Practices</p> <p><b>APM BIO-9:</b> Facility Siting</p> <p><b>APM HAZ-2:</b> Hazardous Materials and Waste Handling Management</p> <p><b>APM HAZ-5:</b> Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan.</p> <p><b>APM W-1:</b> Avoid Stream Channels</p> <p><b>APM W-2:</b> Erosion Control and Hazardous Material Plans</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p> <p><b>APM W-9:</b> Prepare and Implement and Approved SWPPP</p>	Plan for Affected Jurisdictional Areas	
<b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites	<p>Potential impacts to the movement corridors, migratory paths, or critical nursery sites for certain species, such as desert bighorn sheep, large reptiles, wild burro, and desert tortoise.</p> <p>Critical habitat found within the EITP area would be potentially used as a movement corridor by desert tortoise.</p> <p>Noise and visual disturbances generated during construction, operations, and maintenance would cause stress to animals, potential death, and avoidance of known corridors or nursery sites by species.</p> <p>Disturbances would be relatively short term due to the linear nature of construction for the transmission and telecommunication lines. Operations and maintenance activities would likewise be short term due to the lower frequency of vehicle and equipment use.</p> <p>Impacts at the proposed Ivanpah Substation would be long-term, as existing natural vegetation would be replaced with impervious surfaces and permanent structures.</p> <p>Implementation of MMs BIO-1, BIO-8, BIO-10, and BIO-12 through BIO-16 would provide protection primarily through avoidance of sensitive movement and nursery areas.</p>	Less than significant with mitigation	<p>With the exception of desert tortoise, EITP contribution to cumulative impacts on wildlife species would be minor.</p> <p>EITP would contribute 0.001% of the future cumulative impacts on non-critical desert tortoise habitat, and 0.004% on critical habitat. The small percentage from EITP would result in a minor impact, but cumulatively, the impacts on this species could be considerable.</p> <p>Currently, cumulative impacts on desert tortoise are considered major and considerable.</p>	Cumulatively considerable	<p><b>APM BIO-4:</b> Best Management Practices</p> <p><b>APM BIO-5:</b> Biological Monitors</p> <p><b>APM BIO-6:</b> Worker Environmental Awareness Program</p> <p><b>APM BIO-7:</b> Avoid Impacts on Active Nests</p> <p><b>APM BIO-8:</b> Avian Protection</p> <p><b>APM BIO-9:</b> Facility Siting</p> <p><b>APM BIO-11:</b> Desert Tortoise Measures</p> <p><b>APM BIO-12:</b> Desert Bighorn Sheep Measures</p> <p><b>APM BIO-13:</b> Western Burrowing Owl Measures</p> <p><b>APM BIO-14:</b> Gila Monster and Chuckwalla Measures</p>	<p><b>MM BIO-1:</b> Preconstruction Surveys</p> <p><b>MM BIO-8:</b> Reduce Night Lighting</p> <p><b>MM BIO-10:</b> Biological Monitors</p> <p><b>MM BIO-12:</b> Desert Tortoise Impacts Reduction Measures</p> <p><b>MM BIO-13:</b> Desert Bighorn Sheep Impacts Reduction Measures</p> <p><b>MM BIO-14:</b> American Badger Impacts Reduction Measures</p> <p><b>MM BIO-15:</b> Migratory Birds and Raptors Impacts Reduction Measures</p> <p><b>MM BIO-16:</b> Burrowing Owl Impacts Reduction Measures</p> <p><b>MM BIO-17:</b> Gila Monster Compliance.</p> <p><b>MM BIO-18:</b> Avian Protection Plan.</p>	<p><b>Construction and O&amp;M:</b> Adverse effects on biological resources.</p> <p>Direct and indirect impacts to wildlife would be reduced to minor and localized.</p> <p>Impacts on desert tortoise due to construction of the project would be adverse, moderate, both short term and long term, and localized.</p> <p>Project would have minor adverse, short- and long-term, localized impacts on Gila monster and chuckwalla.</p> <p>Adverse impacts to desert bighorn sheep would be localized and minor, with both short- and long-term impacts with incorporation of mitigation.</p> <p>Mitigation would reduce the adverse impacts on American badger to localized, minor, and short and long term.</p> <p>Impacts on MBTA bird species, including raptors, would be adverse, minor, short and long term, and localized.</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
							Recommended mitigation for burrowing owl would reduce impacts, which would be adverse and short and long term, to localized and minor.
<b>IMPACT BIO-7:</b> Conflict with the provisions of local ordinances or policies	<p>The project could remove existing desert vegetation during construction. Impacts to stream riparian vegetation would also occur during construction. San Bernardino County requires retention of existing native desert vegetation, in particular Joshua trees, Mojave yuccas, and creosote rings.</p> <p>The applicant would implement APM BIO-2 and BIO-3 to reduce adverse effects. However, if sensitive desert and riparian vegetation could not be avoided, the proposed project would result in significant impacts and directly conflict with the San Bernardino County ordinances.</p> <p>With implementation of MMs BIO-2 and BIO-3, vegetative communities will be restored by the relocation of plants, reseeded, and/or land compensation. If communities cannot be restored, the applicant will compensate in accordance with consultation with appropriate agencies. Implementation of these measures would reduce impacts to less than significant.</p>	Less than significant with mitigation		Not cumulatively considerable	<p><b>APM BIO-2:</b> Minimize Vegetation Impacts</p> <p><b>APM BIO-3:</b> Avoid Impacts on State and Federal Jurisdiction Wetlands</p>	<p><b>MM BIO-2:</b> Reclamation Plan</p> <p><b>MM BIO-3:</b> Special Status Plants Restoration and Compensation</p>	<b>Construction and O&amp;M:</b> Adverse effects on biological resources.
<b>BIO-8:</b> Conflict with the provisions of the Clark County MSHCP and the BCCE.	<p>The proposed project would result in impacts on biological resources (Impacts BIO-1 through BIO-6) on lands under the jurisdiction of the Clark County MSHCP, as the transmission and telecommunication lines cross lands conserved by these plans. Species specifically targeted for conservation and protection by these plans would be potentially impacted by the project. Additionally, the project intersects numerous areas that have undergone MSHCP mitigation actions by the BLM, such as re-vegetation restoration efforts, noxious weed removal, and fencing associated with desert tortoise protection (see Figures 5-1 and 5-5). These restoration areas could be impacted by vegetation removal and the potential introduction of noxious weeds. These impacts would be long-term and significant, thus mitigation is required to reduce impacts.</p> <p>The applicant would be required to initiate discussions with Clark County about appropriate fee-based compliance and other mitigation strategies to ameliorate biological impacts on non-federal lands as discussed in MM-LU-1, Section 3.9, "Land Use." This compliance would be directly based on the provisions of the MSHCP. Compliance for the MSHCP would cover those biological species protected by the MSHCP. Thus, by complying with these provisions, impacts to the MSHCP within the proposed project boundaries would be reduced to less than significant. The construction of the EITP, as proposed along the existing ROW, would be compatible with the primary purpose of the MSHCP, which is to minimize adverse impacts on natural resources within the HCP conservation area.</p>	Less than significant with mitigation		Not cumulatively considerable	N/A	<b>MM LU-1:</b> Obtain Approval from Clark County and the City of Boulder City for Activities Outside of BLM-Designated Utility Corridors in the BCCE	minor adverse
<b>Cumulative Impact BIO-C-1:</b> Habitat Fragmentation, Degradation, and Loss	<p>The relevant impacts resulting from the EITP are IMPACT BIO-1 through BIO-6.</p> <p>Cumulative impacts to biological resources can be either additive (that is, directly proportional in severity to the quantity</p>	Cumulative impacts from all projects on these habitat resources could be significant.	The EITP would have relatively minor impacts on habitat fragmentation, assuming land temporarily disturbed during construction ( 425.9 acres) would be restored to its original state to the greatest extent possible. However, these	Cumulatively considerable	See APMs corresponding to IMPACTS BIO-1 through BIO-6	See MMs corresponding to IMPACTS BIO-1 through BIO-6	The contribution of the EITP to these cumulative impacts would be short term and limited, due to the short temporal duration of construction and the relatively limited geographical

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Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
	<p>of the resource affected, such as vegetation loss or wetland fill) or exponential. For exponential impacts, increasing levels become disproportionately more substantial if they affect biological features that are critical to the survival of a species. An example of an exponential impact is habitat fragmentation, where the result of the construction of multiple projects in a particular area results in fragmentation of areas that formerly provided contiguous habitat into separate areas too small to support dependent species.</p> <p>The EITP has a relatively small construction footprint, despite its linear extent, is limited in duration (18 months), and requires a maximum of 190 construction workers. Most of the elements of the EITP would be constructed within an existing ROW where the native vegetation has already been disturbed, with the exception of the Ivanpah Substation, one of the proposed microwave towers, and new access roads, which, together, would temporarily and permanently impact approximately 372 acres of vegetation (see Section 3.4.1.1, "Existing Conditions"). The EITP would have relatively minor impacts on habitat fragmentation, assuming land temporarily disturbed during construction (425.9 acres) would be restored to its original state to the greatest extent possible. However, these impacts could be significant when combined with impacts from other regional projects. The development of numerous large-scale projects, such as ISEGS, DesertXpress, Silver State, other wind and solar generation facilities, and the SNSA would result in a substantial permanent conversion (approximately 112,000 acres) of desert valley and mountain top habitat to industrial/commercial uses. This could have significant effects on a variety of species through direct habitat loss and/or habitat fragmentation.</p>	<p>The contribution of the EITP to these cumulative impacts would be short term and limited, due to the short temporal duration of construction and the relatively limited geographical extent of the EITP's impact area. The EITP's contribution to cumulative impacts is further reduced through avoidance and minimization measures.</p>	<p>impacts could be significant when combined with impacts from other regional projects. The development of numerous large-scale projects, such as ISEGS, DesertXpress, Silver State, other wind and solar generation facilities, and the SNSA would result in a substantial permanent conversion (approximately 112,000 acres) of desert valley and mountain top habitat to industrial/commercial uses. This could have significant effects on a variety of species through direct habitat loss and/or habitat fragmentation.</p> <p>The EITP, in conjunction with other projects, would result in cumulative impacts on native vegetation communities, including cacti and yucca species, and adversely affect special management areas due to temporary and permanent habitat loss from ground disturbance and inadvertent distribution of noxious weeds, as described in Section 3.4, "Biological Resources." Specifically, ISEGS would disturb approximately 3,600 acres of Mojave creosote scrub, DesertExpress would disturb approximately 280 acres of mesquite scrub and Joshua tree woodlands; Silver State Solar would disturb 2,967 acres of habitat types including desert scrub, desert wash, and desert woodlands. Thus, in conjunction with the EITP, cumulative impacts to native desert vegetation communities would be approximately 7,220 acres of disturbance. These impacts would be both temporary and permanent, as restoration of habitat back to its baseline condition has a temporal aspect: creosote, Joshua trees, and conifer forests take much longer to re-colonize an area as opposed to smaller cacti and perennial plant species. Birds, bats, reptiles, and other wildlife rely on these vegetation types for forage and nesting opportunities. Removal of vegetation and/or long-term restoration efforts could negatively impact common and special-status wildlife. Cumulative impacts from the projects would affect the desert valley vegetation located along the desert floor and lower bajada slopes, as well as vegetation typically characterizing the desert mountain ridges (i.e. pinyon-pine and juniper woodland and upper elevation scrub).</p>				<p>extent of the EITP's impact area. The EITP's contribution to cumulative impacts is further reduced through avoidance and minimization measures.</p>
<p><b>Cumulative Impact BIO-C-2: Special-Status Species</b></p>	<p>The relevant impacts from the EITP are IMPACT BIO-1 and BIO-2.</p> <p>Although for many future developments specific data are not available, impacts on desert tortoise and bighorn sheep are quantified here as an example of the extent of wildlife impacts</p>	<p>Each of these projects has recommended mitigation measures such as avoidance, salvage, restoration, and compensation to</p>	<p>One potential impact from reasonably foreseeable future projects, including the EITP, could be habitat loss over a large area. The use of both desert tortoise and bighorn sheep as potential indicators for cumulative impacts is appropriate to address large-scale disturbance</p>	<p>Cumulatively considerable</p>	<p>See APMs corresponding to IMPACTS BIO-1 and BIO-2</p>	<p>See MMs corresponding to IMPACTS BIO-1 and BIO-2</p>	<p>If recommended mitigation measures are applied over the cumulative impacts area, the EITP would have a negligible contribution to cumulative impacts to special-status plant populations.</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
	<p>that could occur in desert valley and upper mountain habitat within the EITP cumulative analysis area. Desert tortoise has commonly been used as an indicator species to illustrate broader-ranging potential impacts on desert habitat and wildlife. Bighorn sheep could similarly be used as an indicator of potential impacts to mountainous areas and the wildlife species that utilize that niche such as migratory birds and large mammals.</p> <p>The range of the desert tortoise encompasses virtually all of the cumulative impact area (Figure 5-5), incorporates most of the habitat types that would be used by other potentially impacted species such as American badger, Gila monster, and desert birds, and includes the locations of the majority of the past, present, and future cumulative projects evaluated in this analysis. Additionally, tortoise populations have been eliminated or reduced in large parts of their ranges in California and in areas near Las Vegas as a result of human activities and disease (USFWS 2008a). This historical decline, coupled with potential impacts from future projects, makes any future impacts potentially significant. The range of the desert tortoise is limited at higher elevations, as the species is generally not found above 5,000 feet. In contrast, desert bighorn sheep are well-adapted to the higher elevations of desert mountain ranges, and in the EITP cumulative area, are known to occupy the Clark, Spring, and McCullough Mountain ranges. These mountains provide forage, shelter, and potential critical lambing areas for the sheep, in addition to serving as large-scale migratory pathways among the desert valleys.</p>	<p>reduce impacts to special-status plants to less than significant. Similar mitigation measures have been included for the EITP to reduce impacts. If these measures are applied over the cumulative impacts area, the EITP would have a negligible contribution to cumulative impacts to special-status plant populations.</p> <p>Overall, contributions from the EITP to habitat loss and potential impacts to special-status wildlife would be minor. However, cumulative impacts on desert tortoise could be major and considerable.</p>	<p>and/or loss of desert valley and mountain habitat. Coupled with historical losses, this extensive habitat loss would result in significant cumulative impacts. As discussed in Section 5.3.3.2, there are currently approximately 240,500 acres of habitat that have been disturbed (approximately 238,000 acres) and/or converted to infrastructure (approximately 3,000 acres). Reasonably foreseeable future projects are expected to result in approximately 112,000 acres of habitat disturbance/loss. Of that, future wind projects encompass approximately 57,000 acres of upper desert valley and mountain tops within the cumulative study area.</p> <p>As currently proposed, the EITP would contribute less than 0.060 percent to future cumulative impacts on non-critical desert tortoise habitat and 0.055 percent on critical habitat (Table 5-7). A total of approximately 2.0 acres and 94 acres of critical habitat in California and Nevada, respectively, would be impacted by the EITP. The small percentage of desert valley habitat loss from EITP would result in a minor cumulative impact. The EITP would also result in modification of desert mountain habitat within the Clark and McCullough Mountains, affecting approximately 150 acres of mountain pass and lower bajada slope areas. This would be a small contribution (0.3 percent, or 150/57,000 acres) to cumulative desert mountain habitat loss as compared to other future projects sited in mountainous areas. Overall, contributions from the EITP to habitat loss and potential impacts to special-status wildlife would be minor. However, cumulative impacts on desert tortoise could be major and considerable.</p>				<p>Overall, contributions from the EITP to habitat loss and potential impacts to special-status wildlife would be minor. However, cumulative impacts on desert tortoise could be major and considerable.</p>
<b>3.5 Cultural Resources</b>							
<p><b>IMPACT CR-1: Impacts to Cultural Resource 36-10315 (CA-SBR-10315H)</b></p>	<p>Potential impacts to cultural resources would occur as a result of the proposed transmission line replacement. The applicant has conducted APM CR-1 to identify the extent of resources in the proposed project area. Further, implementation of APM CR-2, APM CR-3b, and APM CR-4b would help minimize impacts on cultural resources</p> <p>APM CR-4b would require documentation of the cultural resource according to the National Park Service Historic American Buildings Survey/Historic American Engineering Record standards. This documentation would be filed with the California Historical Resources Information System, the Nevada State Historic Preservation Office, and the BLM.</p>	<p>Less than significant without mitigation</p>	<p>Cumulative impacts to other known cultural resources were not considered to be significant or considerable at the cumulative level contingent on proper mitigation by all projects.</p> <p>If adequate measures and mitigations were implemented by all the foreseeable construction projects that could affect other known cultural resources, then there would not be cumulatively considerable impacts to known cultural resources.</p>	<p>Not cumulatively considerable</p>	<p><b>APM CR-1:</b> Conduct Archaeological Inventory of Areas that May Be Disturbed</p> <p><b>APM CR-2:</b> Avoid and Minimize Impacts on Significant Cultural Resources Wherever Feasible</p> <p><b>APM CR-3b:</b> Evaluate Significance of Potentially Eligible Buildings and Structures</p> <p><b>APM CR-4b:</b> Implement Measures to Minimize Impacts on Significant Buildings and Structures</p>	<p>N/A</p>	<p><b>Construction:</b> Direct, adverse, and permanent impact to Cultural Resource 36-10315 (CA-SBR-10315H)</p> <p><b>O&amp;M:</b> No impacts are anticipated during this phase.</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>IMPACT CR-2:</b> Impacts to Previously Unidentified Cultural Resources	Major long-term direct impacts to any subsurface unidentified cultural resources would occur as a result of disturbing the ground and altering the existing setting, as well as disturbing the context of the find and its associations with other resources in the area. Project disturbance would diminish the resource's scientific or cultural integrity.  Implementation of MM CR-1, APM CR-5, APM CR-6 and would reduce potential impacts to less than significant levels. Additionally, APM CR-2b would reduce these potential impacts to less than significant levels by educating the construction crew on the penalties associated with not reporting a cultural find or of collecting artifacts from federal- or state-controlled land.	Less than significant with mitigation	Cumulative impacts to unidentified cultural resources were not found to be significant or cumulatively considerable assuming proper mitigation by all projects.  Subsurface cultural resources could be unearthed by any projects developed in previously undisturbed areas. If adequate measures and mitigations were implemented by all the foreseeable construction projects, then there would not be cumulatively considerable impacts to previously unidentified cultural resources.	Not cumulatively considerable	<b>APM CR-1:</b> Conduct Archaeological Inventory of Areas that May Be Disturbed  <b>APM CR-2b:</b> Conduct a Preconstruction Worker Environmental Awareness Program (see BIO-6, PALEO-3, and W-11).  <b>APM CR-5.</b> Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan  <b>APM CR-6.</b> Inadvertent Discovery of Human Remains	<b>MM CR-1:</b> Cultural Resources Monitoring  <b>MM CR-3:</b> Archaeological Resources Protection Act (ARPA) Training.	<b>Construction:</b> Unanticipated discovery of cultural resources as a result of construction activities disturbance could also diminish its scientific or cultural integrity.  <b>O&amp;M:</b> No impacts are anticipated during this phase.
<b>IMPACT CR-3:</b> Unanticipated Discovery of Human Remains	No resources with human remains or features known to be likely to contain human remains were discovered during the background research or field studies for the EITP. However, potential major long-term direct impact on human remains if there were unanticipated discoveries of human remains during construction.  APM CR-6 would reduce impacts on human remains as a result of inadvertent discoveries during construction activities.	Less than significant without mitigation	Cumulative impacts to human remains were not found to be significant or cumulatively considerable assuming proper mitigation by all projects.  Subsurface human remains could be unearthed by any projects developed in previously undisturbed areas. If adequate measures and mitigations were implemented by all the foreseeable construction projects, then there would not be cumulatively considerable impacts to previously unidentified human remains.	Not cumulatively considerable	<b>APM CR-6.</b> Inadvertent Discovery of Human Remains	N/A	<b>Construction:</b> Unanticipated discovery of cultural resources as a result of construction activities disturbance could also diminish its scientific or cultural integrity.  <b>O&amp;M:</b> No impacts are anticipated during this phase.
Removal of portions of historic resources (NEPA Only Impact).	Construction of the EITP would result in a direct, adverse, and permanent impact to Cultural Resources 36-10315 (CA-SBR-10315H) by altering the setting and disturbing elements of the site that contribute to its historic significance. The construction plans call for removal of portions of historic resources; however, as discussed under mitigation measure (MM) CR-2, the resources would be documented according to Historic American Engineering Record (HAER) level 2 standards and potential impacts would be minimized or reduced to less than significant.	N/A	Construction of the DesertXpress and ISEGS projects would also result damage to, removal of, or destruction of segments of the Boulder Dam-San Bernardino 132-kV Transmission Line (36-10315 [CA-SBR-10315H]), similar to the impact of the EITP on this cultural resource. Therefore, the construction of these three projects could result in a cumulatively considerable impact to this cultural resource. The proposed project's contribution to cumulative impacts would be mitigated through adequate documentation. If adequate measures and mitigations were implemented by all the foreseeable construction projects that could affect other known cultural resources, then there would not be cumulatively considerable impacts to known cultural resources.	Cumulatively considerable	N/A	<b>MM CR-2:</b> Historic American Engineering Record Recordation.	Negligible, localized adverse

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<b>3.6 Geology, Soils, Minerals, and Paleontology</b>							
<b>IMPACT GEO-1: Rupture of Earthquake Fault Across the Transmission Line Route</b>	Given the relative lack of active faults in the project area, the potential for exposure of people to fault rupture during construction of the transmission line is very low. Similarly, the potential for adverse effects of fault rupture during operation and maintenance is also unlikely during the life of the proposed project.  MM GEO-2 strengthens APM GEO-1 by stating that the applicant will use the findings of the geotechnical analysis to guide engineering and design.	Less than significant without mitigation	There would not be a considerable cumulative impact to geologic resources in the cumulative effects area.  Seismic impacts (groundshaking, earthquake-induced ground failure, and fault rupture) from the numerous local and regional faults are an impact of the geologic environment on individual projects or existing and would not introduce considerable cumulative impacts.	Not cumulatively considerable	APM GEO-1: Geotechnical Engineering and Engineering Geology Study	N/A	<b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.  <b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.
<b>IMPACT GEO-2: Exposure of People or Structures to Potential Adverse Effects Due to Seismic Ground Shaking</b>	Project construction and operations and maintenance activities could impact people and structures by exposing them to adverse effects due to seismic ground shaking during construction. Due to the short nature of construction and infrequent nature of significant ground shaking in the project area, potential adverse effects to people would be less than significant without mitigation. Design considerations outlined in APM GEO-2 would further lessen the potential for adverse effects.  The likelihood that people would be exposed to adverse effects during project operations and maintenance is limited: structures would be more likely to experience an impact.  Any impact would be short term and localized for the proposed project, although the causative event would affect a larger region.	Less than significant without mitigation	There would not be a considerable cumulative impact to geologic resources in the cumulative effects area.  Seismic impacts (groundshaking, earthquake-induced ground failure, and fault rupture) from the numerous local and regional faults are an impact of the geologic environment on individual projects or existing and would not introduce considerable cumulative impacts.	Not cumulatively considerable	APM GEO-1: Geotechnical Engineering and Engineering Geology Study  APM GEO-2: Recommended Practices for Seismic Design of Substations	N/A	<b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.  <b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.
<b>IMPACT GEO-3: Exposure of People or Structures to Potential Adverse Effects Due to Seismic-Related Ground Failure</b>	For most of the proposed project area, seismic-related ground failure is not expected, due to the general lack of shallow groundwater. Potential for negligible impact would be highly localized only in those areas that may be susceptible to seismic-related ground failure during construction include structures located at or near playa fringes.  Under APM GEO-1, the applicant would complete a geotechnical engineering study to identify site-specific geologic conditions and potential geologic hazards prior to final engineering.	Less than significant without mitigation	There would not be a considerable cumulative impact to geologic resources in the cumulative effects area.  Seismic impacts (groundshaking, earthquake-induced ground failure, and fault rupture) from the numerous local and regional faults are an impact of the geologic environment on individual projects or existing and would not introduce considerable cumulative impacts.	Not cumulatively considerable	APM GEO-1: Geotechnical Engineering and Engineering Geology Study  APM GEO-2: Recommended Practices for Seismic Design of Substations	N/A	<b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.  <b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.
<b>IMPACT GEO-4: Exposure of People or Structures to Adverse Effects Due to Landslides</b>	Potential impacts from construction- or operations-caused landslides on people or structures would be localized, but effects could extend over a long time.  Installing, upgrading, or re-grading access roads could lead to landslides at locations where geologic conditions are conducive to this type of hazard, such as in areas on or adjacent to hill slopes. Geologic conditions would also occur in areas on or adjacent to Operation and maintenance activities could also expose people and structures to landslide hazards during the life of the project.  Implementation of APM GEO-1 and MM GEO-2 would lessen potential effects to less than significant levels.	Less than significant without mitigation	There are no highly sensitive geologic formations in the project area. Therefore, there would not be a considerable cumulative impact to geologic resources in the cumulative effects area.  From the available information, no reasonably foreseeable future projects indicate plans to significantly alter sensitive geologic formations. However, the available information is limited.	Not cumulatively considerable	APM GEO-1: Geotechnical Engineering and Engineering Geology Study	MM GEO-1: Monitor and Mitigate Damage to Tower Structures	<b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.  <b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.
<b>IMPACT GEO-5: Erosion of Soil at Towers and the Substation and Along Access Roads</b>	The proposed project would impact soil by resulting in erosion at the transmission and telecommunication towers, at the substation, and along the access roads. This impact would be localized but would act over the entire construction period.	Less than significant with mitigation	Structural impacts from unstable soils are an impact of the geologic environment on individual projects and would not introduce considerable cumulative impacts.	Not cumulatively considerable	APM GEO-3: Project Construction Stormwater Pollution Prevention Plan Protection Measures Regarding Soil Erosion / Water Quality	MM GEO-2: Geotechnical Engineering Study	<b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.

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	<p>Operation and maintenance on service roads would lead to continued ground disturbance that would result in sites of potential erosion, particularly in areas of hill slopes. This impact would be localized but could act over the life of the proposed project, could be significant.</p> <p>With the implementation of APM GEO-3 and MM W-1, impacts on soil conditions would be reduced.</p>						<p><b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.</p>
<b>IMPACT GEO-6:</b> Structural Failure of Towers and Substation Facility Due to Unstable Soil Conditions Resulting in Subsidence or Collapse	<p>Ground subsidence or collapse due to groundwater withdrawal or dehydration of clays between the soil surface and the water table could lead to the structural failure of the transmission line and telecommunication line towers and substation facility. This adverse impact on the project, ranging from negligible to minor, could be localized to extensive, depending on the degree to which continued and/or increased groundwater withdrawal from the Ivanpah and Eldorado valleys.</p> <p>The likelihood of this impact could increase over time with continued and/or increased groundwater withdrawal. With implementation of MM W-2, MM GEO-1 and MM GEO-2, this impact would be reduced to a minor or less than significant level.</p>	Less than significant with mitigation	Structural impacts from unstable soils are an impact of the geologic environment on individual projects and would not introduce considerable cumulative impacts.	Not cumulatively considerable	<p><b>APM GEO-1:</b> Geotechnical Engineering and Engineering Geology Study</p> <p><b>APM GEO-2:</b> Recommended Practices for Seismic Design of Substations</p>	<p><b>MM GEO-1:</b> Monitor and Mitigate Damage to Tower Structures</p> <p><b>MM GEO-3:</b> Preparation and Implementation of SWPPP</p>	<p><b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.</p> <p><b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.</p>
<b>IMPACT GEO-7:</b> Structural Failure of Towers or Substation Facility Due to Expansive Soils	The areas most prone to experience expansive soils lie within or adjacent to playas or old lake deposits with clay rich sediments. Although prior to final design a geotechnical engineering study would be performed (APM GEO-1), impacts on proposed project facilities could be significant. With the implementation of MM GEO-4, however, impacts under this criterion would be less than significant.	Less than significant with mitigation	Structural impacts from unstable soils are an impact of the geologic environment on individual projects and would not introduce considerable cumulative impacts.	Not cumulatively considerable	<b>APM GEO-1:</b> Geotechnical Engineering and Engineering Geology Study	<b>MM GEO-4:</b> Expansive Soils Mitigation	<p><b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.</p> <p><b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.</p>
<b>IMPACT MR-1:</b> Loss of Mineral Resource of Value to Region and the Residents of the State	<p>The potential for mineral resources in the project vicinity is area-wide. Numerous non-metallic and metallic mineral deposits occur along or near the telecommunications line route.</p> <p>Proposed future activities at mines can easily avoid the proposed project area. Any identified adverse impacts at current mines are negligible.</p> <p>There are a few past and current mining locations in the vicinity of the proposed project, but none, except the aboveground portion of the Mountain Pass Telecommunications Alternative, would be within 1,000 feet of either side of the proposed telecommunications line route. The Molycorp Mine would be within 1,000 feet of the Mountain Pass Telecommunications line or alternative routes.</p> <p>Since no specific locations for valuable mineral resources have been identified within the project area, there would be no loss of availability of a known mineral resource as a result of the proposed project.</p>	Less than significant without mitigation	<p>None of the reasonably foreseeable future projects in the cumulative effects area are expected to interfere with active mining operations.</p> <p>The proposed project would be on land designated as an energy corridor. The land is not eligible for mining, and the project would not limit any existing mining claims. Therefore, incremental impact of the proposed project on any cumulative impacts on minerals would be negligible or less than significant.</p>	Not cumulatively considerable	N/A	N/A	<p><b>Construction:</b> Direct negligible impacts to minor geology and soils, generally local in extent, ranging to extensive to area wide, and acting over either short- or long-term time spans.</p> <p><b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.</p>

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<b>IMPACT PALEO-1:</b> Direct or Indirect Damage or Destruction of Paleontological Resources	Project-related ground disturbance could impact buried and undiscovered paleontological resources.  APMs PALEO-1 through PALEO-8 would help reduce impacts on paleontological resources discovered during the preconstruction and construction phases.	Less than significant without mitigation	Paleontological resources are known to be present in the geographic area of reasonably foreseeable future projects, particularly those projects that would be located near the dry lakes.  If resources were discovered during construction of these projects, they would be subject to legal requirements designed to protect them, thereby reducing impacts. Therefore, proposed project impacts combined with impacts from past, present, and reasonably foreseeable projects would not be significant and no additional mitigation measures would be necessary.	Not cumulatively considerable	<b>APM PALEO-1:</b> Retention of Paleontologist and Preparation of a Paleontological Resource Management Plan  <b>APM PALEO-2:</b> Pre-construction Paleontological Field Survey  <b>APM PALEO-3:</b> Worker Environmental Awareness Program  <b>APM PALEO-4:</b> Construction Monitoring  <b>APM PALEO-5:</b> Recovery and Testing  <b>APM PALEO-6:</b> Monthly Progress Reports  <b>APM PALEO-7:</b> Analysis of and Preparation of Final Paleontological Resource Recovery Report  <b>APM PALEO-8:</b> Curation	N/A	<b>Construction:</b> Potential for adverse impacts on paleontological resources  <b>O&amp;M:</b> No additional ground disturbance beyond the areas disturbed during construction.
<b>3.7 Hazards, Health, and Safety</b>							
<b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials	During construction, hazards to the public or the environment might be caused by the transport, use, or disposal of hazardous materials including (but not limited to) gasoline, diesel fuel, oil, paints, chemicals, waste oils, and construction waste. APM HAZ-2 would prevent releases of hazardous materials and waste.  During operation and maintenance, hazards to the public or the environment also could be caused by the improper transport, storage, use or disposal of hazardous materials. APM HAZ-5 and MM HAZ-1 would help ensure that the applicant would minimize, avoid, and/or clean up spills of hazardous materials. In addition, MM HAZ-4 would require that project-related debris be tested prior to disposal; MM HAZ-5 would require that potential backfill material be proven contaminant-free; and MM HAZ-6 would ensure that the applicant obtain an EPA Identification Number and receive authorization from a local CUPA, if necessary.	Less than significant with mitigation	Cumulative effects of hazardous materials spills and potential exposures could only occur in the immediate vicinity of the proposed project area.  It is unlikely that there would an incident where multiple projects would have a hazardous materials release in close proximity to each other such that could be cumulative effects.  Any release of hazardous materials would have to be remediated according to state and federal regulations.	Not cumulatively considerable	<b>APM HAZ-2:</b> Hazardous Materials and Waste Handling Management  <b>APM HAZ-5:</b> Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan.	<b>MM HAZ-1:</b> Worker Health and Safety and Environmental Training and Monitoring Program  <b>MM HAZ-4:</b> Disposal of Demolition Materials.  <b>MM HAZ-5:</b> Backfill Material.  <b>MM HAZ-6:</b> EPA Identification Number.	<b>Construction:</b> Hazards such as accidents or spills from improper use, storage, or disposal of oil and/or hazardous materials would be minor, short term, and localized.  <b>O&amp;M:</b> The applicant would implement APM HAZ-5 to facilitate quick and safe cleanup of accidental spills of hazardous materials.  Implementation of MM HAZ-1 would reduce the risk of exposure to workers and the public and minimize the potential for release of hazardous materials.
<b>IMPACT HAZ-2:</b> Create Hazards through Accidental Release of Hazardous Materials into the Environment	The proposed project would not traverse any known contaminated sites, but would traverse and be in close proximity to fuel product pipelines where there could be soil contamination.  Prior to any grading activities, the applicant would be required by law to use an Underground Service Alert organization to identify the location of underground utilities and pipelines.	Less than significant with mitigation	Cumulative effects of hazardous materials spills and potential exposures could only occur in the immediate vicinity of the proposed project area.  It is unlikely that there would an incident where multiple projects would have a hazardous materials release in close proximity to each other such that could be cumulative effects. Any	Not cumulatively considerable	<b>APM PUSVC-1:</b> Work Around High Pressure Pipelines  <b>APM PUSVC-2:</b> Monitoring by Pipeline Companies  <b>APM HAZ-2:</b> Hazardous Materials and Waste Handling	<b>MM HAZ-1:</b> Worker Health and Safety and Environmental Training and Monitoring Program  <b>MM HAZ-4:</b> Disposal of Demolition Materials.  <b>MM HAZ-5:</b> Backfill Material.	<b>Construction:</b> Hazards such as accidents or spills from improper use, storage, or disposal of oil and/or hazardous materials would be minor, short term, and localized.  <b>O&amp;M:</b> The applicant would implement APM HAZ-5 to facilitate quick and safe

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	In addition, the applicant would not use APM PUSVC-1, APM PUSVC-2, APM HAZ-2 and APM HAZ-3 to reduce potential adverse effects. Implementation of MM HAZ-1 would protect the workforce during construction and operation of the EITP. In addition, MM HAZ-4 would require that project-related debris be tested prior to disposal; MM HAZ-5 would require that potential backfill material be proven contaminant-free; and MM HAZ-6 would require that the applicant obtain an EPA Identification Number and receive authorization from a local CUPA, if necessary.		release of hazardous materials would have to be remediated according to state and federal regulations.		Management  APM HAZ-3: Soil Management Plan	MM HAZ-6: EPA Identification Number.	cleanup of accidental spills of hazardous materials.  Implementation of MM HAZ-1 would reduce the risk of exposure to workers and the public and minimize the potential for release of hazardous materials.
<b>IMPACT HAZ-3:</b> Expose the Public or Environment to Contaminated Soil or Groundwater	The proposed components may encounter undocumented hazardous waste sites during construction. However, the applicant has committed to conducting a Phase 1 ESA (APM HAZ-1) to identify recognized environmental conditions in the vicinity of the ROW prior to the start of construction to ensure that contaminated areas would be avoided. In addition, MM HAZ-3 would require the applicant to submit a work plan to the appropriate agency for its review and approval prior to initiating any remediation work, and MM HAZ-5 would require that potential backfill material (if used) be properly sampled and determined to be contaminant-free.	Less than significant without mitigation	It is unlikely that the proposed project and other reasonable foreseeable projects would be constructed in the same location at the same time. Because any soil contamination encountered would be removed and/or remediated prior to construction, impacts of the proposed project would not combine with impacts of other projects, and there would not be a considerable cumulative effect.	Not cumulatively considerable	APM HAZ-1: Phase I ESA	MM HAZ-3: Agency Coordination and Approvals.  MM HAZ-5: Backfill Material.	minor, localized, and short term.
<b>IMPACT HAZ-4:</b> Increase Safety Hazards for People Residing or Working Within Two Miles of a Public Airport or Public Use Airport	<p>The only existing airport within the project area is the Jean Airport, 5 miles away; therefore, there would be no impact associated with existing airports within 2 miles of the proposed project.</p> <p>The proposed boundary for the Southern Nevada Supplemental Airport (SNSA) would be within 0.5 miles (2,640 feet) north of MP 26 of the EITP transmission line; however it is not possible to state conclusively whether the EITP would impact the future SNSA. Under APM LU-1, the applicant would notify the FAA as far in advance of construction as possible. To further reduce potential hazards associated with the future airport, the applicant has requested Hazard/No Hazard Determinations for structures within 20,000 feet of the airport boundary and will implement MM HAZ-2, which requires that the applicant comply with all FAA requirements upon construction of the SNSA.</p>	Less than significant with mitigation	<p>The proposed EITP transmission line would be constructed within 0.5 miles of the southern boundary of the proposed Southern Nevada Supplemental Airport (SNSA) that is scheduled for completion by 2020.</p> <p>At this time, it is not possible to assess the cumulative potential airport risks at the proposed SNSA because insufficient information is available about SNSA and the proposed projects that would be located within 20,000 feet of the SNSA.</p>	Unknown	APM LU-1: Aeronautical Considerations	MM HAZ-2: Comply with FAA Requirements Upon Construction of the SNSA.	With respect to potential hazards to aviation, FAA has recommended distances between power lines and navigational equipment. The applicant would coordinate with FAA (MM HAZ-2) and notify the FAA in advance of construction (APM LU-1) to ensure that the EITP did not interfere with proposed navigational facilities and flight paths. Implementation of MM HAZ-4 and MM HAZ-6 would further require that the applicant properly identifies and disposes of hazardous construction waste. With respect to potential hazards to aviation, the applicant would notify the FAA in advance of construction (APM LU-1). Additionally, the applicant will comply with all FAA requirements upon construction of the SNSA (MM HAZ-2) which would ensure that the EITP does not interfere with proposed navigational facilities and flight paths.
<b>IMPACT HAZ-5:</b> Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan	<p>During construction and operation, activities that could affect traffic and emergency routes include equipment delivery necessitating lane closures and stringing lines across major and local roadways. If lane closures were necessary for construction or maintenance of the EITP, the applicant would implement APM TRA-1 and APM TRA-2.</p> <p>The applicant would also implement BMPs, such as use of flaggers, identification of detours, and appropriate communications with stakeholders.</p>	Less than significant without mitigation	<p>Concurrent construction of the proposed project and ISEGS, FirstSolar, NextLight, the CalNev Pipeline Expansion Project, and DesertXpress could increase traffic congestion and flow; therefore, there could be cumulative impacts to access and use of emergency routes.</p> <p>Overall, a considerable increase in traffic congestion could result in a cumulative impact; however, traffic management plans would likely reduce this impact so that it would not be considerable.</p>	Not cumulatively considerable	APM TRA-1: Obtain Permits  APM TRA-2: Traffic Management and Control Plans	N/A	Negligible, localized, and short term.

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<b>IMPACT HAZ-6:</b> Expose People or Structures to Wildland Fires	<p>During construction and operation of the EITP (all components), fires might be caused by combustion of native materials due to smoking, refueling, or operating vehicles and other equipment off roadways; welding; electrical arcing; or a fallen conductor.</p> <p>The applicant's Fire Management Plan (APM HAZ-4) establishes standards and practices that would minimize the risk of fire and, in the event of fire, provide for immediate suppression and notification.</p>	Less than significant without mitigation	<p>The Ivanpah Valley in California has a moderate fire risk. In Nevada, the fire risk outside of Primm is not known, although the city of Primm has a low fire risk.</p> <p>Concurrent construction of the foreseeable construction in California could increase the fire risks. However, each project would likely implement its own fire management program to reduce the potential risk of fires.</p>	Not cumulatively considerable	<b>APM HAZ-4:</b> Fire Management Plan	N/A	Negligible, localized.
<b>3.8 Hydrology and Water Quality</b>							
<b>IMPACT HYDRO-1:</b> Introduction of Hazardous Contamination into Surface and Groundwater	<p>Although the hydrology of the area would prevent any spill that occurred from migrating quickly or far and groundwater in this region is located between 100 and 500 feet below the surface, there is the potential adverse impacts on surface and groundwater resources due to hazardous contamination during construction and operation and maintenance of the lines and substation.</p> <p>With proper implementation of APM HAZ-2, APM W-1, APM W-2, MM W-1 and MM W-6, the potential impact on surface water quality from erosion would be reduced to less than significant levels.</p>	Less than significant with mitigation		Not cumulatively considerable	<p><b>APM W-2:</b> Erosion Control and Hazardous Material Plans</p> <p><b>APM W-10:</b> Emergency Release Response Procedures</p> <p><b>APM W-12:</b> Properly Dispose of Hazardous Materials</p> <p><b>APM W-13:</b> Identify Location of Underground Utilities Prior to Excavation</p>	<p><b>MM W-1:</b> Erosion Control Plan and Compliance with Water Quality Permits</p> <p><b>MM W-6:</b> DESCP, SWPPP, and Grading and Storm Water Management Plan for Ivanpah Substation.</p>	<p><b>Construction:</b> Potential for the introduction of hazardous contamination into surface water resources would be minor, localized, and short term.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-2:</b> Lowering of Water Table or Interference with Aquifer Recharge	<p>The proposed project could have small impacts on local groundwater levels and on aquifer recharge processes by altering surface water drainages and increasing groundwater withdrawal over current conditions.</p> <p>During construction, the applicant would avoid stream channels (APM W-1), collect and divert runoff (APM W-6), and develop ditch and drainage design (APM W-7). These measures would allow for infiltration of surface water and subsequent groundwater recharge at rates consistent with preconstruction conditions.</p> <p>The applicant would also use water for dust suppression during construction. The potential for lowering local groundwater levels during construction would be negligible, localized, and short term. The applicant has agreed to a maximum water use of between 32,000 and 40,000 gpd for the duration of project construction. This equates to between 30.6 and 38.3 acre-ft/yr and a pump rate of 35 gpm. As described in Section 3.8.1.5, the applicant has arranged to acquire this water from existing wells at the Molycorp Mine Mountain Pass facility within the Ivanpah and Shadow Valley fresh water production well fields. The proposed project would require 35 gpm, or 2.3 percent, of the available water from the well fields. Molycorp currently uses only a small fraction of this water and has agreed that there would be sufficient water available for the proposed project. To limit excessive groundwater withdrawals, MM W-2 sets maximum water use limits for the construction and operation phases of the proposed project. By limiting the maximum water use, construction of the proposed project would result in less than significant impacts</p>	Less than significant with mitigation	<p>The capacity of the local aquifer is not currently known. The town of Primm and the Primm Valley Golf Course are drawing upon water in the Ivanpah Valley. If all the water needed to support the foreseeable projects were drawn from the local water table, there could be a considerable cumulative impact on the local water table.</p> <p>The proposed project's contribution would depend on the volume of water to be drawn from the local aquifer and the total amount drawn by the other foreseeable projects.</p> <p>Further, the area of new impervious surfaces of the proposed project would not alter groundwater recharge within the local basins, so it would not contribute to a considerable cumulative impact.</p>	Cumulatively considerable	<p><b>APM W-1:</b> Avoid Active Stream Channels</p> <p><b>APM W-6:</b> Collect and Divert Runoff.</p> <p><b>APM W-7:</b> Ditch and Drainage Design.</p>	<b>MM W-2:</b> Water Use Maximum	<p><b>Construction:</b> The potential for lowering local groundwater levels during construction would be negligible, localized, and short term</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

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<b>IMPACT HYDRO-3:</b> Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns	<p>Potential for increased erosion or siltation on site or off site due to project construction and operation and maintenance activities. Construction ground disturbance may change natural runoff patterns, thereby affecting natural erosion and siltation processes. Water used for dust suppression during construction could suspend and transport more sediment than is typically moved in the arid climate.</p> <p>Implementation of APM W-1, APM w-4, APM w-6, APM W-7, and APM W-8 would help minimize changes to surface drainage patterns and reduce stormwater velocity where changes would occur. In addition, MM W-1 and MM W-6 would ensure that all BMPs and county plan erosion practices are adhered to, erosion and siltation levels would be kept consistent with preconstruction conditions</p>	Less than significant with mitigation	<p>Past projects have altered drainage patterns by changing local topography. Each time a site is graded and developed, natural drainage features are culverted, redirected, or, in the case of small desert washes, eliminated.</p> <p>Insufficient data are available to be able to predict the exact nature of the cumulative alterations. The proposed project's contribution to cumulative impacts, however, would be localized and relatively small given its footprints for construction (470 acres) and operations (60 acres).</p>	Not cumulatively considerable	<p><b>APM W-3:</b> Project Design Features</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p> <p><b>APM W-5:</b> Diversion Dikes</p> <p><b>APM W-6:</b> Collect and Divert Runoff</p> <p><b>APM W-7:</b> Ditch and Drainage Design</p> <p><b>APM W-8:</b> Minimize Cut and Fill Slopes</p>	<b>MM W-1:</b> Erosion Control Plan and Compliance with Water Quality Permits	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-4:</b> Altered Course of Stream or River due to Modification of Surface Drainage Patterns	<p>The proposed project could cause alteration of the course of a stream due to modification of surface drainage patterns. Construction activities causing ground disturbance and alteration of natural drainage patterns could cause a change in the hydrologic inputs to a stream, thus affecting the flow volume or route. Changes to surface contours could be permanent and could affect the stream flow over the long term.</p> <p>MM W-3 requires the applicant to predict any alteration in flow paths as a result of construction of the proposed project and establish a channel system to mitigate any impacts associated with altered flow paths. MM W-4 (Restoration of Dry Lake) requires the applicant to restore the lake surface to preconstruction conditions, therefore reducing this impact to less than significant levels.</p>	Less than significant with mitigation	<p>Past projects have altered drainage patterns by changing local topography. Reasonable foreseeable future projects that would be constructed on the floors of the Ivanpah or Eldorado valleys could also alter drainage patterns.</p> <p>Insufficient data are available to be able to predict the exact nature of the cumulative alterations. However, the proposed project's contribution to cumulative impacts would be localized and relatively small given its footprints for construction and operations.</p>	Not cumulatively considerable	<p><b>APM W-1:</b> Avoid Stream Channels</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p>	<p><b>MM W-3:</b> Onsite Flow Model and Channel System</p> <p><b>MM W-4:</b> Dry Lake Restoration Plan</p>	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-5:</b> Modified Runoff Characteristics That Exceed Existing Stormwater Systems, Possibly leading to Flooding or Inundation by Mudflow	<p>The proposed project would be unlikely to cause flooding or inundation by mudflow. However, the EITP area is in a region known for active alluvial fans, which are vulnerable to flooding and debris flows in times of heavy rain.</p> <p>Construction activities causing ground disturbance could change natural runoff patterns, thereby affecting volume and flow of surface and subsurface waters and possibly affecting flooding patterns of local waterways.</p> <p>The applicant would implement APM W-1, APM W-4, APM W-5, APM W-6, APM W-7, and, as required by law, implement a SWPPP (APM W-9). As a part of MM W-5, the applicant would also analyze all alluvial fans in the project area to determine the most active sections. Following this analysis, proposed project components would be sited on the least active areas of the fans to reduce the possibility of floods or debris flows.</p>	Less than significant with mitigation	<p>EITP and other foreseeable projects would be required to take erosion and drainage control measures to reduce the potential adverse effects of flood events; therefore, the potential cumulative risks would be reduced.</p> <p>As long as the foreseeable projects did the appropriate hydrologic modeling to site their facilities in the areas with lowest flood risk and their structures were designed to accommodate a 100-year, 24-hour flood event, there would not be a significant cumulative impact to flood risks. However, most of the reasonably foreseeable projects have not completed their environmental analysis, so it is not possible to determine if all the proper steps will be taken</p>	Not cumulatively considerable	<p><b>APM W-5:</b> Diversion Dikes</p> <p><b>APM W-6:</b> Collect and Divert Runoff</p> <p><b>APM W-7:</b> Ditch and Drainage Design</p>	<b>MM W-5:</b> Historical Hydrological Model of Alluvial Fan	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-6:</b> Substantially Degrade Water Quality	<p>The proposed project could degrade water quality by increasing erosion or sedimentation in surface waters or through the introduction of hazardous materials into surface waters.</p> <p>Potential impacts from the introduction of hazardous materials would be less than significant without mitigation.</p> <p>Implementation of MMs W-1, W-3, and W-6 would reduce potential impacts due to erosion and sedimentation to less than</p>	Less than significant with mitigation	<p>There could be considerable cumulative impacts to public safety due to debris flow. However, the proposed project's contribution to cumulative public safety risks associated with flooding would be minor and long term.</p> <p>Because the proposed project would have a smaller footprint than many of the foreseeable projects in the Ivanpah and Eldorado valleys and</p>	Not cumulatively considerable	<p><b>APM W-2:</b> Erosion Control and Hazardous Material Plans</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p> <p><b>APM W-9:</b> Prepare and Implement an Approved SWPPP</p>	<p><b>MM W-1:</b> Erosion Control Plan and Compliance with Water Quality Permits</p> <p><b>MM W-3:</b> Onsite Flow Model and Channel System</p>	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p>Potential for the introduction of hazardous contamination into surface water resources would be minor,</p>

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	significant levels.		the towers would be designed to resist scour, debris flows would be more likely to pass proposed project structures without dislodging them.				localized, and short term.  <b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.
<b>IMPACT HYDRO-7:</b> Placement of Structures within a 100-year Flood Hazard Area	<p>Transmission line tower footings would be constructed within a 100-year flood hazard area through the Ivanpah Dry Lake. Additionally, the telecommunications line would cross through a 100-year flood hazard zone near Nipton Road. The Ivanpah Substation would not be located in a 100-year flood hazard zone.</p> <p>Due to the relatively flat topography of the flood hazard areas, the risk associated with this hazard would be minor. The applicant would design tower footings to withstand scour and inundation from a 100-year flood (APM W-3). This measure would ensure that flooding at tower footings would not pose a safety risk.</p>	Less than significant without mitigation	<p>The EITP and all other foreseeable projects with project components within a 100-year flood zone would have to undertake similar measures to reduce this potential cumulative impact. However, given the number of new structures in the area, there could be an increase in the volume of flood waters diverted.</p> <p>The proposed project would have only a less than significant or negligible contribution to this cumulative impact because of small role is the potential diversion of flood waters.</p>	Not cumulatively considerable	<p><b>APM W-3:</b> Project Design Features</p> <p><b>APM W-5:</b> Diversion Dikes</p>		<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p>Potential for the introduction of hazardous contamination into surface water resources would be minor, localized, and short term.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-8:</b> Exposure to a Significant Risk of Flooding	<p>The proposed project area is in a region with active alluvial fans, which are vulnerable to flooding and debris flows in times of heavy rain. However, it is unlikely that project facilities or construction equipment would actually impede or redirect a flood flow. The applicant would implement APM W-1, APM W-4, APM W-5, and APM W-7 to ensure that active drainage channels were not hindered by construction activity.</p> <p>As a part of MM W-5, the applicant would analyze the alluvial fans in the project area to determine the most active sections. Following this analysis, the project facilities would be sited on the least active lobes of the alluvial fans to mitigate against floods or debris flows and their inherent threat to life and property.</p>	Less than significant with mitigation	<p>The EITP transmission tower footings would be designed to withstand scour and inundation from a 100-year flood (APM W-3). All other foreseeable projects with project components within a 100-year flood zone would have to undertake similar measures to reduce this potential cumulative impact.</p> <p>However, given the number of new structures in the area, there could be an increase in the volume of flood waters diverted. The proposed project would have only a less than significant or negligible contribution to this cumulative impact because of small role is the potential diversion of flood waters.</p>	Not cumulatively considerable	<p><b>APM W-1:</b> Avoid Stream Channels</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p> <p><b>APM W-5:</b> Diversion Dikes</p> <p><b>APM W-7:</b> Ditch and Drainage Design</p>	<b>MM W-5:</b> Historical Hydrological Model of Alluvial Fan.	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>
<b>IMPACT HYDRO-9:</b> Modify Runoff Characteristics, Possibly Leading to Flooding or Inundation by Mudflow	<p>The proposed project area is in a region with active alluvial fans, which are vulnerable to flooding and debris flows in times of heavy rain. However, it is unlikely that project facilities or construction equipment would actually impede or redirect a flood flow. The applicant would implement APM W-1, APM W-4, APM W-5, and APM W-7 to ensure that active drainage channels were not hindered by construction activity.</p> <p>As a part of MM W-5, the applicant would analyze the alluvial fans in the project area to determine the most active sections. Following this analysis, the project facilities would be sited on the least active lobes of the alluvial fans to mitigate against floods or debris flows and their inherent threat to life and property.</p>	Less than significant with mitigation	<p>The EITP transmission tower footings would be designed to withstand scour and inundation from a 100-year flood (APM W-3). All other foreseeable projects with project components within a 100-year flood zone would have to undertake similar measures to reduce this potential cumulative impact.</p> <p>However, given the number of new structures in the area, there could be an increase in the volume of flood waters diverted. The proposed project would have only a less than significant or negligible contribution to this cumulative impact because of small role is the potential diversion of flood waters.</p>	Not cumulatively considerable	<p><b>APM W-1:</b> Avoid Stream Channels</p> <p><b>APM W-4:</b> Avoid Active Drainage Channels</p> <p><b>APM W-5:</b> Diversion Dikes</p> <p><b>APM W-7:</b> Ditch and Drainage Design</p>	<b>MM W-5:</b> Historical Hydrological Model of Alluvial Fan.	<p><b>Construction:</b> Minor to moderate localized impacts due to erosion and sedimentation. Special consideration due to location on active alluvial fans.</p> <p><b>O&amp;M:</b> Similar to those of current operations of the existing transmission line.</p>

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Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>3.9 Land Use, Grazing Allotments, and Wild Horses and Burros</b>							
<b>IMPACT LU-1:</b> Conflict with applicable Plans and Policies	<p>The proposed project would cross various land uses in both California and Nevada:</p> <ul style="list-style-type: none"> <li>The Boulder City Conservation Easement (BCCE, managed by Clark County and the City of Boulder City) with specific utility corridors reserved to the BLM.</li> <li>Land designated as the Ivanpah Airport Environs Overlay for the Southern Nevada Supplemental Airport (SNSA).</li> <li>A small area of private land in unincorporated Clark County.</li> </ul> <p>MM LU-1 requires that the applicant comply with the terms of the Interlocal Agreement (as Amended) between Clark County and the City of Boulder City, including Exhibit D to the Agreement, and acquire approval for activities outside of the BLM-designated corridor within the BCCE. Additionally, MM HAZ-1 includes Worker Environmental Awareness Training to ensure best management practices are implemented in order to be compatible with adjacent BCCE land uses (policies such as road designations, speed limits, and restrictions on camping in the area).</p> <p>In order to ensure that there are no impacts related to land use planning efforts for the future SNSA, the applicant would adhere to the policies of the South County Land Use Plan. Additionally, MM HAZ-2 requires that the applicant comply with all FAA requirements when the SNSA is constructed.</p>	Less than significant with mitigation	<p>EITP's contribution to total grazing acreage loss to the Clark Mountain Allotment (less than half of one percent of total available).</p> <p>The proposed project would be routed through the BCCE. No reasonably foreseeable future project is proposed within this conservation easement, so there would not be any cumulative impacts.</p>	Not cumulatively considerable	<b>APM LU-1:</b> Aeronautical Considerations	<p><b>MM LU-1:</b> Obtain Approval from Clark County and the City of Boulder City for Activities Outside of BLM-Designated Utility Corridors in the BCCE</p> <p><b>MM HAZ-1:</b> Worker Health and Safety and Environmental Training and Monitoring Program</p> <p><b>MM HAZ-2:</b> MM HAZ-2: Comply with FAA Requirements Upon Construction of the SNSA.</p>	<p><b>Construction:</b> Short-term, localized, negligible adverse impacts on the Ivanpah Dry Lake Recreation Area, the Jean/Roach Dry Lake SRMA and the Hidden Valley grazing allotment.</p> <p><b>O&amp;M:</b> Long-term, localized, negligible adverse effects on the Clark Mountain grazing allotment</p>
<b>3.10 Noise</b>							
<b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards	<p>Project construction would comply with local noise ordinances and variance procedures requested by local authorities. In addition, as part of the project, the applicant has committed to maintaining construction equipment in working order (APM NOI-2) and adhering to the manufacturer's maintenance recommendations (APM NOI-3); muffling construction equipment (APM NOI-4); and minimizing the amount of time that equipment is idled (APM NOI-5).</p> <p>Implementation of MM NOI-1 would ensure that noise impacts at the Desert Oasis Apartment Complex would be reduced, such that impacts would be less than significant.</p>	Less than significant with mitigation	<p>The estimated combined construction noise at the Primm Valley Golf Course of the proposed Ivanpah Substation, the EITP transmission line, likely noise generated from the construction of the Calnev Pipeline, ISEGS, and First Solar would be 59 dBA with pile driving at the ISEGS project and 57 dBA without pile driving.</p> <p>The estimated cumulative noise level does not exceed San Bernardino County's allowable noise level of 60 dBA for other commercial purposes; therefore, there would not be a considerable cumulative impact.</p>	Not cumulatively considerable	<p><b>APM NOI-1:</b> Compliance with Local Noise Ordinances</p> <p><b>APM NOI-2:</b> Construction Equipment Working Order</p> <p><b>APM NOI-3:</b> Construction Equipment Maintenance</p> <p><b>APM NOI-4:</b> Construction Equipment Muffled</p> <p><b>APM NOI-5:</b> Construction Equipment Idling Minimized</p>	<b>MM NOI-1:</b> Conduct Construction Activities during Daytime Hours	<p><b>Construction:</b> Temporary, minor, and localized adverse impacts at residences located at the Desert Oasis Apartment Complex due to project construction.</p> <p><b>O&amp;M:</b> No impact. Corona noise would be barely audible and would not change current conditions. Negligible adverse noise impacts due to maintenance activities.</p>
<b>IMPACT NOI-2:</b> Transmission line operation and maintenance noise exceeding noise levels or standards	<p>During the worst-case foul weather conditions, substation noise and corona noise associated with operation would be just audible. This level is less than the standards of the noise ordinances of the two applicable counties.</p> <p>Maintenance activities would typically occur over short timeframes up to two times per month and generate minimal noise. The applicant would use noise reduction measures to be compatible with local plans and zoning.</p>	Less than significant without mitigation	No cumulatively considerable impacts on noise levels or standards are anticipated during operations and maintenance of the proposed EITP and other foreseeable projects in the area.	Not cumulatively considerable	N/A	N/A	<b>O&amp;M:</b> No impact. Corona noise would be barely audible and would not change current conditions.

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<b>IMPACT NOI-3:</b> Generate groundborne vibration or groundborne noise that exceeds 75 vdb during construction	Construction activities may generate groundborne vibration and noise. At the nearest residential receptor (the Desert Oasis Apartment Complex, a distance of .01 miles from the line), the vibration level generated by the greatest source of construction vibration (loaded truck) would temporarily exceed 75 VdB; however, this would occur during daytime hours and be short-term and temporary.	Less than significant without mitigation	Concurrent construction of the proposed EITP and other foreseeable projects could increase, but could also have no affect on, the level of groundborne vibration and noise at the Desert Oasis Apartment Complex.  Insufficient data are currently available to calculate the level. However, the combined impact of future projects could only be for a day or two at the nearest receptor. Because of the short duration and as long as construction of all projects was limited to daytime hours, the cumulative impact would be less than significant.	Not cumulatively considerable	N/A	N/A	<b>Construction:</b> Temporary, minor, and localized adverse impacts at residences located at the Desert Oasis Apartment Complex due to project construction.
<b>IMPACT NOI-4:</b> Groundborne vibration or groundborne noise due to operations	During worst-case foul weather conditions, substation noise and the corona noise associated with operation would be considerably less than existing noise levels. The sum of the existing noise levels at the nearest sensitive receptor and the modeled maximum corona noise levels during foul weather would result in 47 dBA; therefore, no perceptible increase would occur and operation of the proposed project.	Less than significant without mitigation	No cumulatively considerable impacts due to groundborne vibration or groundborne noise are expected during operations and maintenance of the proposed EITP and other foreseeable projects in the area.	Not cumulatively considerable	N/A	N/A	<b>O&amp;M:</b> No impact.
<b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity	Construction noise would not be anticipated to exceed 78 dBA at the closest sensitive receptor (Desert Oasis Apartment Complex). Any increases in ambient noise levels due to construction activities in the project vicinity would be short-term, intermittent, and temporary.  With the implementation of MM NOI-1, and with additional noise minimization procedures (MM NOI-2 through MM NOI-5) implemented as needed, construction of the proposed project would result in a less than significant impact under this criterion.	Less than significant with mitigation	The cumulative impact from reasonably foreseeable future project development within 2 miles of receptors near Primm Valley Golf Club in California and the Desert Oasis Apartment Complex in Primm, Nevada would be equivalent to the direct impact from the proposed project, which was evaluated as minor, short term, and localized, and less than significant because of its duration.	Not cumulatively considerable	<b>APM NOI-2:</b> Construction Equipment Working Order  <b>APM NOI-3:</b> Construction Equipment Maintenance  <b>APM NOI-4:</b> Construction Equipment Muffled  <b>APM NOI-5:</b> Construction Equipment Idling Minimized  <b>APM NOI-6:</b> Hearing Protection for Workers	<b>MM NOI-1:</b> Conduct Construction Activities during Daytime Hours  <b>MM NOI-2:</b> Relocate Stationary Construction Equipment  <b>MM NOI-3:</b> Turn off Idling Equipment  <b>MM NOI-4:</b> Notify Adjacent Residences  <b>MM NOI-5:</b> Install Acoustic Barriers	<b>Construction:</b> Temporary, minor, and localized adverse impacts at residences located at the Desert Oasis Apartment Complex due to project construction.  <b>O&amp;M:</b> No impact. Corona noise would be barely audible and would not change current conditions. Negligible adverse noise impacts due to maintenance activities.
<b>3.11 Public Services and Utilities</b>							
<b>IMPACT PUSVC-1:</b> Emergency services needed in response to an accident or other emergency incident associated with the proposed project	Although demand for emergency services may increase temporarily during construction, existing emergency service providers and facilities would be sufficient to handle any incidents that may occur.  The applicant would implement APM HAZ-4, APMTRA-2, APM TRA-3, APM PUSVC-1, and APM PUSVC-2, which would help ensure that emergency response services would not be affected. To further mitigate impacts MM HAZ-1 requires the applicant to prepare a Health and Safety Plan and conduct a worker safety and environmental training program.	Less than significant without mitigation	Concurrent construction of multiple reasonably foreseeable future construction projects, such as ISEGS and DesertXpress, could increase demands on emergency services, but each project would likely take steps to minimize its demand on these services. Therefore, concurrent construction of multiple projects would not likely create a significant cumulative impact on emergency services, and there would not be a considerable cumulative impact.	Not cumulatively considerable	<b>APM HAZ-4:</b> Fire Management Plan  <b>APM TRA-2:</b> Traffic Management and Control Plans  <b>APM TRA-3:</b> Minimize Street Use <b>APM PUSVC-1:</b> Work Around High Pressure Pipelines  <b>APM PUSVC-2:</b> Monitoring by Pipeline Companies	<b>MM HAZ-1:</b> Worker Health and Safety and Environmental Training and Monitoring Program  <b>MM PUSVC-2:</b> Notification of Utility Service Interruption	<b>Construction:</b>  <b>Emergency Services:</b> Short term and negligible adverse impacts  <b>Hazardous Waste:</b> Short term and negligible adverse impacts  <b>Wastewater:</b> Short term and negligible adverse impacts  <b>Water Usage:</b> Negligible, localized, and short term adverse  <b>Operation:</b> Emergency response needs are expected to be similar to existing needs in the project area, and the applicant has included a number of security design features to ensure negligible impacts on police services

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<b>IMPACT PUSVC-2:</b> Project construction temporarily increases water use, and project operation contributes to increased long-term water consumption	The applicant has estimated that between 30.6 and 38.3 acre feet per annum would be needed for the construction phase of the transmission line. Because there is a limited water supply in the proposed project area, the applicant would implement MM W-2 (Water Use Maximum) to sets maximum water use limits for the construction and operation phases.  For more information on water use and consumption, specifically as it relates to the potential for lowering the water table in the project area, see Impact HYDRO-2	Less than significant with mitigation	Given that multiple reasonably foreseeable future construction projects in the area could occur concurrently with the EITP and ISEGS, there could be a cumulatively significant impact on local water use, depending on the water sources. However, because the EITP has determined their water source and would be implementing MM W-2, the EITP contribution to the cumulative impact would not be significant.	Cumulatively considerable	N/A	MM W-2: Water Use Maximum	due to the new Ivanpah Substation.  <b>Construction:</b>  <b>Emergency Services:</b> Short term and negligible adverse impacts  <b>Hazardous Waste:</b> Short term and negligible adverse impacts  <b>Wastewater:</b> Short term and negligible adverse impacts  <b>Water Usage:</b> Negligible, localized, and short term  <b>Operation:</b> Emergency response needs are expected to be similar to existing needs in the project area, and the applicant has included a number of security design features to ensure negligible impacts on police services due to the new Ivanpah Substation.
<b>IMPACT PUSVC-3:</b> Solid waste generated during construction of the project exceeds landfill requirements	Approximately 26% (140 tons) of the total construction waste would be would be disposed in landfills. Existing solid waste facilities have adequate capacity to accommodate project-related solid wastes. With the implementation of MM PUSVC-1, potential impacts on landfills would be less than significant.	Less than significant with mitigation	All of the reasonably foreseeable future projects would contribute solid waste to landfills in either California or Nevada. The total solid waste from each project that goes to a landfill would be reduced. There would not be a significant cumulative impact on the capacity of local landfills as long as all of the projects adhered to local policies and regulations related to recycling.	Not cumulatively considerable	N/A	MM PUSVC-1: Construction Waste Disposal Plan	<b>Construction:</b>  <b>Emergency Services:</b> Short term and negligible adverse impacts  <b>Hazardous Waste:</b> Short term and negligible adverse impacts  <b>Wastewater:</b> Short term and negligible adverse impacts  <b>Water Usage:</b> Negligible, localized, and short term adverse  <b>Operation:</b> Emergency response needs are expected to be similar to existing needs in the project area, and the applicant has included a number of security design features to ensure negligible impacts on police services due to the new Ivanpah Substation.
<b>IMPACT PUSVC-4:</b> Solid waste generated during construction of the project results in noncompliance with federal, state, or local statutes, regulations, or policies	Implementation of MM PUSVC-1 would ensure compliance with local policies regarding solid waste management, impacts.	Less than significant with mitigation	There would not be a significant cumulative impact on the capacity of local landfills as long as all of the projects adhered to local policies and regulations related to recycling.	Not cumulatively considerable	N/A	MM PUSVC-1: Construction Waste Disposal Plan	<b>Construction:</b>  <b>Emergency Services:</b> Short term and negligible adverse impacts  <b>Hazardous Waste:</b> Short term and negligible adverse impacts  <b>Wastewater:</b> Short term and negligible adverse impacts  <b>Water Usage:</b> Negligible, localized,

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							and short term adverse  <b>Operation:</b> Emergency response needs are expected to be similar to existing needs in the project area, and the applicant has included a number of security design features to ensure negligible impacts on police services due to the new Ivanpah Substation.
<b>3.12 Recreation</b>							
<b>IMPACT REC-1:</b> Disruption of Access to Existing Recreation Opportunities	Construction of the transmission line would temporarily restrict access to several trail segments in the Jean/Roach Dry Lake Recreation Area.  With implementation of APM REC-1, recreational facility closures would be coordinated with facility owners and construction would be scheduled to avoid heavy recreational use periods. Additionally, implementation of MM REC-1 would require the applicant to locate extra workspace areas outside of Recreation Areas, limiting construction activities to the construction ROW.	Less than significant with mitigation	If the EITP and other foreseeable projects in the area had overlapping construction schedules, there could be a considerable short-term cumulative impact to the Jean/Roach Lake SRMA because each would temporarily restrict access to trails.  Based on the duration of construction in the Jean/Roach Lake SRMA, EITP would have a minor short-term contribution or less than significant with mitigation to cumulative impacts to recreation in the Jean/Roach Lake SRMA.	Cumulatively considerable	<b>APM REC-1:</b> Recreation Area Closures	<b>MM REC-1:</b> Limit Construction Workspace in Wildlife and Recreational Areas  <b>MM REC-2:</b> Notify the Nevada Department of Wildlife of Any Road Closures During Hunting Season	<b>Construction:</b> minor, short term, localized, and negligible impacts from construction activities.  <b>O&amp;M:</b> No impact.
Clarification of roads available for OHV usage (NEPA Only Impact).	MM REC-3 would ensure that project spur roads not open for OHV use are clearly marked	N/A	There would not be a significant cumulative impact to recreation.	Not cumulatively considerable	N/A	<b>MM REC-3:</b> Display Appropriate "Closed" Signage for New Spur and Access Roads Constructed.	Negligible, localized impacts on recreation
<b>Cumulative Impact REC-C-1:</b> Restricting Access to Areas within the Jean/Roach Dry Lake SRMA	The EITP would cross the Jean/Roach Dry Lake SRMA between MP 7 and MP 28.5. Construction of the transmission line would temporarily restrict access to several trail segments. As part of the project (APM REC-1), the applicant would coordinate closures of recreational facilities with the facility owners and would schedule construction to avoid heavy use periods. MM REC-1 requires the applicant to locate extra workspace areas outside of the Ivanpah Dry Lake Recreation Area and Jean/Roach Dry Lake SRMA, which would further minimize the temporary disturbance on recreation in the vicinity of the dry lakes.	Less than significant with mitigation	The Nextlight Silver State Solar Project would be located entirely within the boundary of the Jean/Roach Dry Lake SRMA and would be constructed on two sections of a competitive OHV racing trail. If the EITP and NextLight Silver State Solar Project had overlapping construction schedules, there could be a considerable short-term cumulative impact to the Jean/Roach Dry Lake SRMA because each would temporarily restrict access to trails. Based on the assumption that there would be overlapping construction schedules and the duration of construction in the Jean/Roach Dry Lake SRMA and the area of the Jean/Roach Dry Lake SRMA crossed by the EITP, the project would have a minor short-term contribution or less than significant contribution with mitigation to cumulative impacts on recreation in the Jean/Roach Dry Lake SRMA.	Cumulatively Considerable	<b>APM REC-1:</b> Recreation Area Closures	<b>MM REC-1:</b> Limit Construction Workspace in Wildlife and Recreational Areas	Minor short-term adverse

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>3.13 Socioeconomics, Population and Housing, and Environmental Justice</b>							
No Impact	<p>Construction of the EITP would cause a negligible increase compared with the size of the regional population, and no impact would result. Permanent employees required for operation and maintenance activities would be similar to current levels of staffing for the existing line.</p> <p>Project construction, operations and maintenance would not substantially increase the demand for housing or directly or indirectly induce population growth in the area. Similarly, project activities would not displace existing housing or people, or necessitate relocation or the construction of replacement housing elsewhere.</p>	No Impact	<p>Concurrent construction of the reasonably foreseeable future projects would result in a beneficial cumulative impact on the local and regional economy and tourism, and could decrease unemployment during periods of construction.</p> <p>Reasonably foreseeable future projects, in conjunction with the EITP, would result in cumulative impacts to air, noise, public services, and traffic that may effect low-income populations in Primm, Nevada. However, these impacts would not disproportionately affect these communities, and therefore would not result in a cumulative environmental justice impact.</p>	Not cumulatively considerable	N/A		<p><b>Construction:</b> negligible, short-term, beneficial impact on the region's economy, area incomes, and the region's labor force.</p> <p><b>O&amp;M:</b> negligible impacts on labor, minority and low-income populations, and the tourism industry.</p>
<b>3.14 Traffic and Transportation</b>							
<b>IMPACT TRANS-1:</b> Traffic Load and Capacity	<p>Less than significant impacts on existing traffic load and capacity, as a limited number of vehicles over a short period would be used for construction. Implementation of APM TRA-1 and APM TRA-2 would contribute to reduction of impacts associated with construction traffic. Impacts on northbound I-15 during the Friday afternoon commute would be short term and less than significant.</p> <p>Use of helicopters of during construction and operations could also increase the volume of air traffic in the area and potential air traffic conflicts could occur. Potential air traffic conflicts would be reduced to less than significant levels with implementation of MM TRANS-2. Additionally, MM HAZ-2, which requires compliance with all FAA requirements upon construction of the SNSA, would further reduce air traffic conflicts to less than significant.</p>	Less than significant with mitigation	<p>The contribution of the proposed project's impact to traffic and transportation would be minor. However, the proposed project's incremental effect could result in a considerable cumulative impact.</p> <p>The exact number of vehicles to be added by the EITP and other foreseeable during concurrent construction cannot be determined with the available information. The proposed project would contribute a maximum of 200 vehicles over an 18-month period and would minimize impacts through use of a Traffic Management Plan.</p>	Cumulatively considerable	<b>APM TRA-2:</b> Traffic Management and Control Plans	N/A	<p><b>Construction:</b> Direct minor adverse traffic impacts due to project construction access along I 15 and SR 164/Nipton Road. Impacts would be localized at construction yards and crossing points (MP 29) along the transmission line route and would be short term.</p> <p><b>O&amp;M:</b> No impact. Maintenance activities associated with substations and transmission lines would not require additional vehicles beyond those used for current operations and maintenance procedures</p>
<b>IMPACT TRANS-2:</b> Impact Level of Service Standard and Lane Closures	<p>Less than significant impacts on existing Level of Service (LOS) standards as defined by Caltrans. A limited number of vehicles over a short period would be used for construction. Impacts on northbound I-15 during the Friday afternoon peak hours due to increased number of vehicles on the road would be short term and less than significant. Implementation of APMs TRA-1, TRA-2, and TRA-3 would contribute to reduction of impacts associated with construction traffic.</p> <p>The severity of the short-term impact would depend on the number of lanes closed, the duration of the closure, and the LOS conditions at the time of closure. MM TRANS-1 will limit construction activities so as not to require lane closures on peak usage hours. MM TRANS-3 will ensure that a Traffic Control Plan is developed to address staggering of project deliveries on I-15 during peak traffic times.</p>	Less than significant with mitigation	<p>The contribution of the proposed project's impact to traffic and transportation would be minor. However, the proposed project's incremental effect could result in a considerable cumulative impact.</p> <p>With concurrent construction of the projects mentioned above the number of vehicles using I-15 would increase and would adversely impact traffic load and LOS on I-15 principally on Fridays from noon to 10 p.m. However, the exact number of vehicles to be added cannot be determined with the available information.</p>	Cumulatively considerable	<p><b>APM TRA-1:</b> Obtain Permits</p> <p><b>APM TRA-2:</b> Traffic Management and Control Plans</p> <p><b>APM TRA-3:</b> Minimize Street Use</p>	<p><b>MM TRANS-1:</b> No Lane Closures on I-15 during Friday Peak Usage</p> <p><b>MM TRANS-3:</b> Traffic Control Plan.</p>	<p><b>Construction:</b> Direct minor adverse traffic impacts due to project construction access along I 15 and SR 164/Nipton Road. Impacts would be localized at construction yards and crossing points (MP 29) along the transmission line route and would be short term.</p> <p><b>O&amp;M:</b> No impact. Maintenance activities associated with substations and transmission lines would not require additional vehicles beyond those used for current operations and maintenance procedures</p>

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>IMPACT TRANS-3:</b> Impact Emergency Access	Emergency response providers near the proposed project area would be notified in advance about the exact location of construction, road or route closure schedules, and location of potential alternate routes, as needed. Implementation of APMs TRA-1, TRA-2, and TRA-3 would contribute to reduction of impacts associated with emergency access. Work would be coordinated with local police and traffic engineers to plan appropriate access alternatives for temporary street closures and traffic disruption, if closures were required.	Less than significant without mitigation	Emergency response providers near the proposed project area and those for other construction projects would be notified in advance about the exact location of construction and road or route closure schedules. Like the proposed project, the foreseeable projects would coordinate with local police and traffic engineers to plan appropriate access alternatives for temporary street closures and traffic disruption, if closures were required.	Not cumulatively considerable	N/A	N/A	<b>Construction:</b> Direct minor adverse traffic impacts due to project construction access along I 15 and SR 164/Nipton Road. Impacts would be localized at construction yards and crossing points (MP 29) along the transmission line route and would be short term.  <b>O&amp;M:</b> No impact. Maintenance activities associated with substations and transmission lines would not require additional vehicles beyond those used for current operations and maintenance procedures
<b>IMPACT TRANS-4:</b> Result in a Change in Air Traffic Patterns	While the proposed project would not impact existing air traffic, use of helicopters of during operation and maintenance procedures could interfere with air traffic associated with the future SNSA. As a result, the applicant is required to implement MM TRANS-2, which requires coordination with the FAA regarding a Helicopter Flight Plan and Safety Plan. In addition, MM TRANS-2 specifies that the applicant will review the plan with the FAA and the CCDOA at least 30 days prior to the start of SNSA construction. With the implementation of MM TRANS-2, potential air traffic conflicts would be reduced to less than significant levels.	Less than significant with mitigation	Use of helicopters of during operations and maintenance procedures could interfere with air traffic associated with the future SNSA. As a result, the applicant is required to implement MM TRANS-2, which requires coordination with the FAA regarding a Helicopter Flight Plan and Safety Plan. Additionally, helicopter use during maintenance procedures is common for linear projects. Calnev Pipeline requires helicopter use and other existing transmission lines may also use helicopters in the cumulative impact area. If the SNSA is constructed, use of helicopters during operations could contribute to a cumulative impact; however, given the infrequency that helicopters would be used for the EITP, the EITP's contribution to this impact would be negligible.	Not cumulatively considerable.	N/A	<b>MM Trans-2:</b> Helicopter Flight Plan and Safety Plan	<b>Construction:</b> No Impact. There would be no impact on existing air traffic  <b>O&amp;M:</b> Direct, minor, adverse and Localized. Helicopter usage associated with operation and maintenance of the transmission line could interfere with air traffic associated with the proposed Southern Nevada Supplemental Airport.

Table ES-5 EITP Direct, Indirect, and Cumulative Effects and Mitigation Measures

Type of Impact	Summary of Impact	CEQA Significance of Impact	Potential Cumulative Impact	Cumulative Significance	Applicant Proposed Measures	Mitigation Measures	NEPA Summary
<b>Cumulative Impact TRANS-C-1: Traffic Load, Capacity, and Level of Service</b>	<p>Most roads in the cumulative impact area are infrequently used and would not be adversely affected by a slight, temporary increase in road traffic; however, construction of the EITP would increase use of I-15 by a maximum of 200 vehicles. Northbound I-15 experiences periods of heavy use on Friday from approximately noon to 10 p.m. because of motorists traveling between the Las Vegas and Los Angeles areas.</p> <p>The applicant would acquire encroachment permits (APM TRA-1) and implement a Traffic Management and Control Plan (APM TRA-2) to reduce impacts.</p> <p>The EITP, ISEGS, the First Solar Project, the NextLight Silver State Solar Project, the Calnev Pipeline Expansion Project, and the DesertXpress High-Speed Rail Project would be located near the I-15 corridor. It is likely that during certain periods, construction of these projects could have overlapping schedules (see Table 5-3).</p> <p>Relevant impacts of the EITP are IMPACT TRANS-1: Traffic Load and Capacity and IMPACT TRANS-2: Level of Service Standard and Lane Closures.</p>	Less than significant with mitigation	With concurrent construction of the projects mentioned above, the number of vehicles using I-15 would increase and would adversely impact traffic load and LOS on I-15 principally on Fridays from noon to 10 p.m. However, the exact number of vehicles to be added cannot be determined with the available information. The EITP would contribute a maximum of 200 vehicles over an 18-month period and would minimize impacts through use of a Traffic Management Plan; therefore, the contribution of the EITP's impact on traffic and transportation would be minor. However, the EITP's incremental effect could result in a considerable cumulative impact; therefore, mitigation would be necessary.	Cumulatively considerable	<p><b>APM TRA-1:</b> Obtain Permits</p> <p><b>APM TRA-2:</b> Traffic Management and Control Plans</p>	<b>MM-C-TRANS-1:</b> I-15 Use Limits.	Minor, short-term cumulative impact.

Key:

- APM = Applicant Proposed Measure
- BLM = Bureau of Land Management
- CARB = California Air Resources Board
- CO = Carbon monoxide
- CO<sub>2e</sub> = Carbon dioxide equivalent
- EITP = Eldorado-Ivanpah Transmission Project
- ESA = Environmental Site Assessment
- GHG = Greenhouse gas
- KOP = Key observation point
- LOS = Level of Service (quantifies the congestion level on a particular roadway or intersection)
- MDAQMD = Mojave Desert Air Quality Management District
- MM = Mitigation measure
- N/A = Not available
- NEPA = National Environmental Policy Act
- NO<sub>x</sub> = Nitrogen Oxides
- O&M = Operation and Maintenance
- PM<sub>10</sub> = Particulate Matter
- PM<sub>2.5</sub> = Fine Particulate Matter (2.5 micrometers in diameter and smaller)
- ROW = Right-of-way
- SFS = Stateline Fault System
- SIP = State Implementation Plan (relative to air criteria pollutants)
- SNSA = Southern Nevada Supplemental Airport
- VdB = Vibration decibel
- VOC = Volatile organic compound
- VRI = Visual Resource Inventory
- VRM = Visual Resource Management Class (VRM Class II objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low)
- WEAP = Worker Environmental Awareness Program

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