

4. Comparison of Alternatives

4.1 Introduction

This section provides a comparison of the proposed project and alternatives described in Chapter 2 and analyzed in Chapter 3. The comparative analysis presented in this section focuses on the differences in impacts among the various alternatives, with particular emphasis given to the differences in significant adverse effects. This section is intended to provide decision-makers with information about the merits and disadvantages of the alternatives to assist them in their consideration of the proposed project and to assist the public in understanding the differences between the alternatives. Consistent with State CEQA Guidelines (Section 15126.6(e)(2)), the Environmentally Superior Alternative identified by the CEQA Lead Agency, the California Public Utilities Commission (CPUC), is presented in Section 4.3. Among the alternatives analyzed in this EIR/EIS, the NEPA Lead Agency, the Bureau of Land Management (BLM), has identified the Preferred Alternative (Section 4.3), as established in NEPA Regulations (40 CFR 1502.14). Furthermore, pursuant to NEPA Regulations (40 CFR 1505.2(b)), the environmentally preferable alternative will also be identified in the Record of Decision (ROD) for the Project¹.

Section 4.2 provides a summary of the proposed project and the alternatives analyzed in this EIR/EIS. Section 4.3 describes the methodology used for comparing alternatives and presents a comparison matrix of environmental impacts for all the alternatives by environmental issue or resource area. Section 4.4 provides a discussion highlighting the differences and similarities among the alternatives and identifies the environmentally superior alternative as required by CEQA, and the agency preferred alternative as required by NEPA Regulations (40 CFR 1502.14).

4.2 Summary of Alternatives

To facilitate a clear understanding of the alternatives, this section summarizes the detailed descriptions for each alternative presented in Chapter 2. The primary features of the proposed project and each alternative are presented in a series of tables for each alternative, and a summary matrix of the components of the proposed project and all alternatives is provided in Table 4.1 at the end of this section, to allow for ease of comparison. An overall map of the proposed project and alternatives is presented in Figure 2-1 at the beginning of Chapter 2. More detailed route maps are presented in Figures 2-10 through 2-14.

The alternatives described below are organized into (1) transmission line routing alternatives and (2) telecommunication path routing alternatives. These alternatives were identified after a screening process, which is further described in Appendix A, “Alternatives Screening Report” (ASR). The ASR evaluated the ability of 18 potential alternatives and/or combination of alternatives to meet the following CEQA/NEPA requirements for alternatives: consistency with project objectives and purpose and need, feasibility, and potential to eliminate significant environmental effects. After initial screening, seven alternatives were determined to meet the CEQA/NEPA alternatives screening criteria and have been retained for full analysis in the EIR/EIS. These retained alternatives and the No Project / No Action Alternative are described in detail in Section 2.3 and are summarized below.

¹ See Section 4.4 for a comparison of the agency preferred alternative and the environmentally preferable alternative, based on NEPA regulations.

4.2.1 No Project / No Action Alternative

The No Project / No Action Alternative considers the results if the proposed project were not implemented. If the project were not built, none of the activities or potential environmental impacts associated with it would occur. Analysis of the No Project Alternative and the corresponding No Action Alternative is required by CEQA and NEPA, respectively, to allow state (CPUC) and federal (BLM) decision-makers to compare the impacts of the project and its alternatives with the impacts of not approving the project. A BLM No Action decision would be the denial of the right-of-way (ROW) application filed by Southern California Edison (SCE, the applicant).

Under the No Project / No Action Alternative, the objectives of the proposed project would not be accomplished. The new electrical transmission facilities to connect renewable energy sources in the Ivanpah Valley area would not be constructed. The applicant would continue to operate and maintain the existing 115-kilovolt (kV) transmission structures and substations and access and spur roads under a variety of agreements and permits. The applicant would also be required to interconnect and integrate power generation facilities into its electric system. This requirement is established by Sections 210 and 212 of the Federal Power Act (16 United States Code (U.S.C.) § 824 (i) and (k)) and Sections 3.2 and 5.7 of the California Independent System Operator (CAISO) Tariff.

Under the No Project / No Action Alternative, the following events or actions (scenarios) related to electric generation and transmission could be reasonably expected to occur in the foreseeable future:

- As currently conceived, solar projects proposed in the Ivanpah Valley area would be postponed or cancelled. Applicants for certain projects planned in the area have stated their intention to connect to an upgraded 230-kV transmission network, and it can be reasonably assumed that other planned projects in the area have the same intention. To continue, these proposed renewable energy projects would have to find alternate means to connect to the existing transmission system without compromising system reliability.
- The California Renewables Portfolio Standard (RPS), which requires retail sellers of electricity to increase their sales share produced by renewable energy sources to 20 percent by 2010, might not be achieved without access to renewable energy from the Ivanpah Valley. While access to renewable energy from the Ivanpah Valley could be provided via other methods, the location of the existing SCE transmission corridor in relation to the planned renewable generation projects in the Ivanpah Valley area make it a natural candidate for providing access to the CAISO-controlled grid.
- Other renewable energy resources would need to be identified and transmission studies would need to be conducted to connect these newly identified sources to the transmission grid. This could delay SCE's, and other utilities', ability to reach the RPS goal of 20 percent renewable generation sources by 2010.
- If the generation projects currently planned (mentioned above) were approved and constructed, transmission providers such as the applicant, Pacific Gas and Electric (PG&E), or the Los Angeles Department of Water and Power (LADWP) would be required to accommodate the power load by upgrading existing transmission infrastructure or building new transmission facilities along a different alignment, and/or developers of solar and wind generation facilities would need to build their own transmission facilities to connect to the existing grid. These renewable generation facilities could also connect with a transmission system that serves customers outside of California.
- If the proposed transmission system is not constructed, the planned renewable generation facilities would need to find alternative means for transmitting their power to load centers and customers. Therefore, the No Project / No Action Alternative might not meet the objectives outlined by the CPUC and the BLM. Specifically, under the No Project / No Action Alternative, access to the CAISO-controlled grid might not be

1 provided to solar generation projects planned for the Ivanpah Valley area because these projects might not
2 be constructed or could connect to transmission systems that service customers outside of California.

- 3
4 • Under the No Project Alternative, the applicant would need to identify alternate renewable generation
5 sources to meet the state RPS goals. This could result in delaying the applicant's ability to comply with the
6 RPS mandate and, depending on the alternate sources identified, could result in greater environmental
7 impacts than the proposed project, as they might require creation of a new ROW or might require ground
8 disturbance in previously undisturbed areas.

9 10 **4.2.2 Transmission Line Routing Alternatives**

11
12 There are five transmission line routing alternatives. All of these are minor route variations to the proposed project
13 transmission line route. Two of these alternatives, Transmission Alternative Routes A and B, were developed to avoid
14 a segment of the proposed project route that would deviate from designated transmission corridors. The other three
15 transmission line route alternatives, Alternatives C and D and Subalternative E, were developed to avoid or reduce
16 potential impacts to Ivanpah Dry Lake.

17 **Route Parallel to LADWP Line Segment Alternative (Transmission Alternative Route A)**

18
19 Transmission Alternative Route A (Figures 2-1 and 2-11) would begin at the Eldorado Substation. The line would exit
20 the substation to the north and join the existing Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass ROW. The
21 line would proceed generally west on a 130-foot ROW and cross three LADWP transmission lines (McCullough–
22 Victorville No. 1 500-kV transmission line, McCullough–Victorville No. 2 500-kV transmission line, and Mead-
23 Victorville 287-kV transmission line) to the north before heading west.

24
25 The route would then cross the LADWP 500-kV transmission line (Marketplace–Adelanto). Transmission Alternative
26 Route A would continue west for approximately 5.0 miles on a new ROW, and then turn north for approximately
27 1,000 feet before crossing the LADWP Marketplace–Adelanto 500-kV transmission line again and joining the
28 proposed project route at MP 7.

29
30 The purpose of this alternative is to bypass a segment of the proposed project route that would deviate from
31 designated transmission corridors and would cross an approximately 0.8-mile segment within the Boulder City
32 Conservation Easement. Although this 0.8-mile ROW currently contains the existing 115-kV line, as stated above, it
33 falls outside of the BLM-designated corridors. Therefore, the applicant would need to obtain Clark County and City of
34 Boulder City approval to widen the ROW to the 100 to 130 feet required for the upgraded 230-kV line (see mitigation
35 measure [MM] LU-1). Transmission Alternative Route A would bypass this segment by heading north from the
36 Eldorado Substation following existing designated transmission corridors.

37 38 **North of Eldorado Alternative (Transmission Alternative Route B)**

39
40 Transmission Alternative Route B (Figure 2-11) would begin at the Eldorado Substation. The line would exit the
41 substation to the north and parallel the Eldorado–Mead 230-kV transmission line on existing ROW for approximately
42 2.5 miles before turning southwest. The route continues southwest for approximately 2.8 miles and re-joins the
43 existing Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line ROW at milepost [MP] 2
44 of the proposed route. This alternative would require numerous, difficult transmission line crossings, and several
45 existing overhead utility lines would require modification or relocation to accommodate passage of the Alternative
46 Route B transmission line.

47
48 Similar to Transmission Alternative Route A, the purpose of Transmission Alternative Route B is to bypass a segment
of approximately 0.8 miles where the proposed project would deviate from existing designated transmission corridor

1 and would cross lands administered by the City of Boulder (Boulder City Conservation Easement). Transmission
2 Alternative Route B was created to bypass these segments by heading southwest from the Eldorado Substation to
3 join the existing ROW.
4

5 **North Dry Lakes Reroute Alternative (Transmission Alternative C)**

6 Transmission Alternative Route C (Figure 2-12) would begin at the Eldorado Substation and follow the proposed
7 route to the point where the line would reach the northeastern edge of Ivanpah Dry Lake (MP 27, tower 185).
8 Transmission Alternative Route C would then continue west and southwest on new 130-foot ROW around Ivanpah
9 Dry Lake for approximately 5.3 miles before rejoining the proposed project route at MP 32, tower 218. Transmission
10 Alternative Route C was developed to minimize potential impacts to Ivanpah Dry Lake.
11

12 **South Dry Lakes Reroute Alternative (Transmission Alternative Route D)**

13 Transmission Alternative Route D (Figure 2-12) would parallel the existing LADWP Marketplace–Adelanto 500-kV
14 transmission line as it crosses through Ivanpah Dry Lake. This route would reduce the overall transmission footprint,
15 since the EITP towers would follow to the extent feasible the existing LADWP 500-kV ROW. Transmission Alternative
16 Route D would begin at the Eldorado Substation and follow the proposed route until it would approach the
17 northeastern edge of Ivanpah Dry Lake (MP 27, tower 184). Transmission Alternative Route D would then continue
18 south and then southwest on a new 130-foot ROW around Primm for approximately 3.3 miles before rejoining the
19 proposed project route at MP 30, tower 203.
20

21 **South Dry Lakes Bypass (Transmission Subalternative Route E)**

22 Transmission Subalternative Route E is a subalternative to Transmission Alternative Route D. Subalternative E
23 would use a shorter length of new 130-foot ROW (approximately 0.25 miles shorter than Alternative D) from MP 27 of
24 the proposed EITP transmission line to the corridor that would parallel the existing LADWP Marketplace–Adelanto
25 500-kV transmission line. As would Transmission Alternative D, this route would reduce the overall transmission
26 footprint, since the EITP towers would follow to the extent feasible the existing LADWP 500-kV ROW. Transmission
27 Subalternative Route E would proceed south from MP 27 for approximately 1 mile and then follow the route proposed
28 for Transmission Alternative Route D (Figure 2-12).
29

30 **4.2.3 Telecommunication Alternatives**

31
32 The two alternatives to the proposed telecommunication system are the Golf Course Telecommunication Alternative
33 and the Mountain Pass Telecommunication Alternative. These alternatives include additional undergrounded
34 segments and installation of telecommunication cable along existing distribution lines. The telecommunication
35 alternatives were designed to minimize potential visual impacts of an aboveground microwave tower. Both
36 alternatives would follow the same path as the proposed telecommunication route, from the Eldorado–Lugo
37 transmission line MP 25 to the town of Nipton, California (Path 2, Sections 1 and 2).
38

39 **Golf Course Telecommunication Alternative**

40 The Golf Course Telecommunication Alternative route would extend from Nipton to the point on the north side of
41 Nipton Road where it intersects with I-15. This alternative would consist of a combination of all-dielectric self-
42 supporting fiber cable installed on existing Nipton 33-kV wooden distribution lines and underground in new duct
43 banks (Figure 2-13).
44

45 Approximately 1 mile of all-dielectric self-supporting fiber cable would be installed overhead on an existing Nipton 33-
46 kV distribution line immediately west of Nipton, on the north side of Nipton Road. Pole replacement for this alternative
47 is not anticipated; however, the detailed project engineering design process might indicate that pole replacement

1 would be necessary. From the westernmost pole on the Nipton line before it would cross Nipton Road to the south,
2 fiber optic cable would be installed in a new underground duct along the north side of Nipton Road in new roadside
3 ROW to the intersection of Nipton Road and I-15. The underground cable length for this segment would be
4 approximately 9 miles.

5
6 From the I-15–Nipton Road junction, the Golf Course Telecommunication Alternative route would parallel I-15,
7 running north on an existing Nipton 33-kV distribution line and crossing I-15 near the Primm Valley Golf Course. This
8 alternative route would cross the Primm Valley Golf Course in a new underground duct (Figure 2-13), then continue
9 on an existing Nipton 33-kV distribution line to a point approximately 1 mile north of the Ivanpah Substation. The
10 telecommunication line would then be installed in a new underground duct for approximately 1 mile to the Ivanpah
11 Substation. The entire route from the I-15 junction to the Ivanpah Substation would be approximately 10 miles.

12 13 **Mountain Pass Telecommunication Alternative**

14 The Mountain Pass Telecommunication Alternative route would extend from Nipton to the point on the north side of
15 Nipton Road where it intersects with I-15. This alternative would consist of all-dielectric self-supporting fiber cable
16 installed on existing Nipton 33-kV wooden distribution lines and underground in new duct banks (Figure 2-14).

17
18 Approximately 1 mile of all-dielectric self-supporting fiber cable would be installed overhead on an existing Nipton 33-
19 kV distribution line immediately west of Nipton, on the north side of Nipton Road. Pole replacement for this alternative
20 is not anticipated; however, the detailed project engineering design process might indicate that pole replacement
21 would be necessary. From the westernmost pole on the Nipton line before it crosses Nipton Road to the south, fiber
22 optic cable would be installed in a new underground duct along the north side of Nipton Road in new roadside ROW
23 to the intersection of Nipton Road and I-15. The underground cable length for this segment would be approximately 9
24 miles.

25
26 From the I-15 junction point, the route would parallel I-15 in an underground duct for approximately 1.0 miles and
27 then the cable would exit the underground duct and be strung on an existing Nipton 33-kV distribution line. The
28 alternative route would then continue west to the town of Mountain Pass, then north to the Mountain Pass Substation.
29 From there, the cable route would proceed northeast on an existing Nipton 33-kV distribution line to the Ivanpah
30 Substation. The route would enter the proposed Ivanpah Substation from the south via approximately 500 feet of
31 underground conduit that would be installed from the last Nipton 33-kV distribution line pole to the substation. The
32 Mountain Pass Telecommunication route, from the I-15 junction point to the Ivanpah Substation, would be
33 approximately 15.0 miles.

34 35 **4.3 Comparison of Environmental Impacts**

36
37 Potential impacts associated with the construction, operation, and maintenance of the eight alternatives to the
38 proposed EITP (including the No Project Alternative) were identified and discussed for each resource section and
39 environmental issue in more detail in Sections 3.2 to 3.14 of this Draft EIR/EIS. Impacts identified for each resource
40 area and alternative were compared with those identified for the proposed project, in terms of potential changes in
41 impact significance (CEQA) and in the intensity, magnitude, and spatial and temporal extent of potential effects
42 (NEPA). This section summarizes the methodology used for comparison of environmental impacts and presents the
43 results of the comparison in a summary and a comparison matrix (Table 4-1).

1 **Summary of the Comparison of Environmental Impacts**

2 ***Transmission Routing Alternatives***

3 Construction and operation and maintenance of Transmission Alternative Routes A, B, C, and D and Subalternative
4 E would differ from the proposed project in length of ROW required and the associated land disturbance, as well as in
5 location with respect to certain resources features that could increase or lessen the environmental effects associated
6 with each proposed project component.

7
8 All the transmission alternative routes might impose stronger overall visual contrast due to structures that would not
9 parallel the existing transmission facilities. However, these minor adverse effects on visual resources would still be
10 consistent with a VRM Class III designation. Alternatives C and D and Subalternative E would have reduced visual
11 impacts on the Desert Oasis Apartment Complex, while Alternative C would lessen potential impacts on recreational
12 users.

13
14 Air quality emissions would be approximately 5 percent above the emissions of the proposed project for Alternatives
15 B and C, due to their additional associated land disturbance during construction activities. Alternatives A and D and
16 Subalternative E would impose impacts on air quality similar to those of the proposed project.

17
18 Major differences between potential impacts from the transmission alternative routes have been identified for
19 biological resources. Increases in the total permanent and temporary land disturbance in previously undisturbed
20 desert habitat would result in the direct and indirect loss of habitat for listed or sensitive plant species, native
21 vegetation communities, and sensitive wildlife habitat. Alternatives B and C would have greater associated
22 disturbance and effects on these resources. The increase in the spatial extent of the project footprint would increase
23 the potential for disturbing wildlife and inducing wildlife mortality. In particular, Alternative C would cross higher
24 quality desert tortoise habitat. Alternative D and Subalternative E would also have associated impacts on native
25 vegetation (pink funnel lily) not found along the proposed project route.

26
27 Other resource areas would have slightly different impacts than would the proposed project. Alternatives A and B
28 would not impact known cultural resources, and the potential for buried, and therefore previously unidentified, cultural
29 resources or human remains would be the same as for the proposed project. Alternatives C and D and
30 Subalternative E would lessen impacts on noise, since they would be farther away from sensitive receptors than the
31 proposed project would be.

32
33 ***Telecommunication Alternatives***

34 Major differences between potential impacts from the telecommunications alternatives have been identified for
35 biological resources. The Golf Course Telecommunication Alternative would increase potential impacts on desert
36 tortoise habitat due to increased critical habitat acreage impacted. Greater impacts to wildlife have been identified for
37 the Mountain Pass Telecommunication Alternative, due to the proximity of construction activities to bighorn sheep
38 and montane bird habitats.

39
40 ***No Project / No Action Alternative***

41 Under the No Project / No Action Alternative, the proposed project, including the transmission line, the proposed
42 Ivanpah Substation, the telecommunications line, and all other components of the proposed project, would not be
43 constructed. Therefore, none of the changes to the existing environment would occur, and there would be no adverse
44 impact to any of the identified environmental resources.

45
46 If the proposed transmission system is not developed but the planned renewable generation facilities are developed,
47 an alternative method for connecting renewable generation facilities in the Ivanpah Valley area would need to be

1 developed. However, because the proposed project would involve only the replacement of an existing transmission
2 line within an existing ROW, it is reasonable to assume that any alternate connection method for renewable
3 generation facilities in the Ivanpah Valley area could result in greater impacts than the proposed project because it
4 might require new ROW or ground disturbance in previously undisturbed areas.

6 **4.4 Identification of the Environmentally Superior Alternative** 7 **(CEQA) / Agency Preferred Alternative (NEPA)**

8 **Ranking of Alternatives (CEQA)**

10 Based on the results of the environmental analysis presented in this Draft EIR/EIS, the comparison of alternatives
11 summarized in Section 4.3 and presented in Table 4-1, and the estimated land disturbance presented in Tables 2-8
12 and 6-1, the following list presents the alternatives ranked from the most to the least environmentally preferred.
13 Additionally, Transmission Route Alternatives A or B could be combined with Transmission Route Alternatives C, D
14 or Subalternative E, and any of the routing alternatives could be combined with either telecommunication alternative.

- 15 • Proposed Project
- 16 • Transmission Alternative Routes A and D, with Subalternative E
- 17 • Transmission Alternative Route B
- 18 • Transmission Alternative Route C
- 19 • Golf Course Telecommunication Alternative
- 20 • Mountain Pass Telecommunication Alternative

21 **Environmentally Superior Alternative (CEQA)**

22
24 CEQA Guidelines require identification of the environmentally superior alternative. According to the California Code
25 of Regulations (CCR) Title 14 §15126.6(e)(2), “if the environmentally superior alternative is the ‘no project
26 alternative,’ the EIR shall also identify an environmentally superior alternative among the other alternatives.” Since
27 the No Project / No Action Alternative evaluated in this Draft EIR/EIS would not meet the agency’s project objectives,
28 the CPUC has determined that the environmentally superior alternative is the proposed project. In contrast with the
29 other seven routing and telecommunication alternatives evaluated in this Draft EIR/EIS, the proposed project would
30 have less land disturbance and less significant impacts on sensitive biological resources, and it would meet all of the
31 project’s objectives. However, under CEQA, this alternative would still result in significant and unavoidable impacts to
32 desert tortoise habitat and significant impacts to air quality, hydrology, and public services.

33 **Agency Preferred Alternative and Environmentally Preferable Alternative (NEPA)**

34
35 Under Title 40 CFR Section 1502.14(e), lead federal agencies are required to “identify the agency’s preferred
36 alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final
37 statement unless another law prohibits the expression of such a preference.” In determining which alternative is
38 preferred, lead federal agencies consider both the “environmentally preferable alternative” and the “agency preferred
39 alternative.” The “agency preferred alternative” is the alternative that the agency believes would fulfill its statutory
40 mission and responsibilities, considering economic, environmental, technical, and other factors. The “environmentally
41 preferable alternative,” in contrast, is the alternative that would promote the national environmental policy, as
42 expressed in NEPA Section 101. Ordinarily, this means the alternative that would cause the least damage to the
43 biological and physical environment; however, it also means the alternative that best protects, preserves, and
44 enhances historic, cultural, and natural resources (CEQ 1981).

1
2 The environmentally preferable alternative will be identified by the BLM in the Record of Decision (ROD) for the
3 project; however, based on the conclusions of the environmental analysis in this Draft EIR/EIS, the BLM has
4 determined that the proposed project / proposed action would fulfill the agency's objectives for the project and is
5 therefore the agency preferred alternative. Although the intensity and extent of potential direct and indirect effects
6 would be similar for all the alternatives carried forward in this Draft EIR/EIS, the proposed project would involve less
7 temporary and permanent land disturbance within critical habitat for plant and wildlife species. Nonetheless, under
8 NEPA, the proposed project would still result in major adverse unavoidable effects to desert tortoise habitat and
9 major adverse impacts to aesthetics, air quality, hydrology, and public services.

10
11 .

Table 4-1 Comparison of Alternatives

ENVIRONMENTAL RESOURCE	Proposed Project	PROJECT ALTERNATIVES						
		Transmission Alternative Route A	Transmission Alternative Route B	Transmission Alternative Route C	Transmission Alternative Route D	Transmission Subalternative Route E	Golf Course Telecommunication Alternative	Mountain Pass Telecommunication Alternative
VISUAL RESOURCES	<p>Minor adverse effects to visual resources temporarily due to construction activities and permanently due to the introduction of taller towers and new structures, including the proposed Ivanpah Substation and the microwave tower.</p> <p>Construction: impacts would be greatest in areas with the greatest amount of land disturbance, such as laydown or staging areas and areas where substantial trenching would be required.</p> <p>Operation and maintenance: seven of the eight KOPs evaluated would conform with the established VRM or VRI classes, and one would not conform with VRM Class II. Under NEPA, this impact is considered adverse. 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.</p> <p>Less than significant impacts on scenic vistas and no impact within a state scenic highway. Mitigation would be required to lessen impacts on existing visual character or quality to the greatest extent possible. Less than significant source of lighting at the Ivanpah Substation, without creation of adverse glare source.</p>	<p>Transmission Alternative Route A would be visible only from KOP 7; all other segments of this alternative would be identical to the proposed project.</p> <p>Stronger overall visual contrast due to the structures not paralleling existing transmission facilities.</p> <p>Minor adverse effects from routing changes, but the area would still be consistent with a VRM Class III designation.</p>	<p>Transmission Alternative Route B would be visible only from KOP 7; all other segments of this alternative would be identical to the proposed project.</p> <p>Stronger overall visual contrast due to the structures not paralleling existing transmission facilities.</p> <p>Minor adverse effects from routing changes, but the area would still be consistent with a VRM Class III designation.</p>	<p>Transmission Line Alternative C would only differ from the proposed project analysis at KOPs 4, 5, and 6; all other segments of this alternative would be identical to the proposed project</p> <p>Stronger overall visual contrast due to the structures not paralleling existing transmission facilities.</p> <p>Minor adverse effect from KOPs 4 and 5. Routing changes would still be consistent with a VRM Class III designation.</p> <p>Reduced visual impacts on residents of the Desert Oasis Apartment Complex and recreational users of the Ivanpah Dry Lake.</p> <p>Same visual impacts to motorists along I-15 as the proposed project.</p>	<p>This alternative would only differ from the proposed project analysis at KOPs 4, 5, and 6; all other segments of these alternatives would be identical to the proposed project.</p> <p>Routing changes would be consistent with the VRM Class III designation for the area.</p> <p>No adverse effect from KOP 4, and reduced impacts to residents of the Desert Oasis Apartment Complex.</p> <p>Same visual impact on recreational users of Ivanpah Dry Lake and motorists along I-15 as the proposed project.</p>	<p>Same as Transmission Alternative Route D.</p>	<p>This alternative would only differ from the proposed project analysis at KOP 8; all other segments of this alternative would be identical to the proposed project.</p> <p>Moderate temporary impacts due to an additional segment of trenching along Nipton Road.</p> <p>Minor adverse visual impact to users of the Golf Course during the construction period due to trenching activities, exposure of soils, equipment, and transportation of materials.</p> <p>No visual impacts due to the portion of the telecommunications line along the existing 33-kV distribution lines (perceptible only at an extremely close distance).</p>	<p>This alternative would only differ from the proposed project analysis at KOP 8; all other segments of this alternative would be identical to the proposed project.</p> <p>Moderate temporary impacts due to an additional segment of trenching along Nipton Road.</p> <p>No visual impacts due to the portion of the telecommunications line along the existing 33-kV distribution lines (perceptible only at an extremely close distance).</p> <p>Minor adverse visual effects limited to construction activities.</p>
AIR QUALITY	<p>Minor adverse construction emissions; negligible operational emissions. Less than significant impacts associated with any conflict with an applicable air quality plan, contribution to violation of any air quality standards, or contribution to a considerable net cumulative increase of any criteria pollutant. Less than significant temporary impacts on generation of odors, sensitive receptors, generation of GHGs. No conflict with any identified GHG reduction plans, policies, or regulations.</p>	<p>The level of construction and operational activity is expected to be similar to that of the proposed project route.</p> <p>Impacts virtually identical to those of the proposed project.</p>	<p>The level of construction and operational activity is expected to be similar to the proposed project, as it would only impact an additional 24 acres.</p> <p>Emissions under this scenario could be approximately 5 percent above the emissions for the proposed project.</p>	<p>The level of construction and operational activity is expected to be similar to the proposed project, as it would only impact an additional 5.5 acres.</p> <p>The emissions under this scenario could be approximately 5 percent above the emissions of the proposed project.</p>	<p>The level of construction and operational activity is expected to be similar to that of the proposed project route.</p> <p>Impacts virtually identical to those of the proposed project.</p>	<p>Impacts virtually identical to Transmission Alternative Route D.</p>	<p>Impacts virtually identical to the proposed project.</p>	<p>Impacts virtually identical to those of the proposed project.</p>

Table 4-1 Comparison of Alternatives

ENVIRONMENTAL RESOURCE	Proposed Project	PROJECT ALTERNATIVES						
		Transmission Alternative Route A	Transmission Alternative Route B	Transmission Alternative Route C	Transmission Alternative Route D	Transmission Subalternative Route E	Golf Course Telecommunication Alternative	Mountain Pass Telecommunication Alternative
BIOLOGICAL RESOURCES	<p>The proposed project would significantly and adversely affect biological resources. Overall, impacts on biological resources (except desert tortoise) from the proposed project would be minor to moderate.</p> <p>Construction, operation, and maintenance activities associated with the proposed project would have impacts on native vegetation, local wildlife, and special-status plants and wildlife. Incorporation of recommended mitigation measures would reduce impacts on these resources through avoidance and minimization.</p> <p>Potentially significant impacts on wildlife species due to direct or indirect loss of habitat for listed or sensitive plant and wildlife species. Impacts on desert tortoise critical habitat would be significant even after mitigation because previously undisturbed designated critical habitat would be permanently removed.</p> <p>If a significant number or length of new access roads and spur roads were necessary for construction of the project, impacts on desert tortoise habitat could be considered major and extensive.</p> <p>Less than significant impacts with mitigation on:</p> <ul style="list-style-type: none"> • Direct or indirect loss of listed or sensitive plants; • Temporary and permanent losses of native vegetation communities and the introduction of invasive, non-native, or noxious plant species; • Drainages, riparian areas, and wetlands; • Direct or indirect loss of migratory wildlife species, corridors, or nursery sites; and • Conflict with the provisions of local ordinances or policies. <p>No impacts associated with the Clark County MSHCP or the BCCE.</p>	<p>Critical issues for this alternative include impacts to native vegetation communities, habitat for special-status plants and wildlife, and special management areas.</p> <p>Potential increase in total permanent impacts by 8 acres and temporary impacts by 62.2 acres in previously undisturbed desert habitat, resulting in a net increase in the direct and indirect loss of habitat for listed or sensitive plant species.</p> <p>Increase in acreage impacts would also increase the potential for disturbing wildlife or causing wildlife mortality, with primary impact on desert tortoise and desert tortoise habitat.</p> <p>Impacts to desert tortoise critical habitat would be considered significant, adverse, and long term after mitigation since this alternative passes through previously undisturbed designated desert tortoise critical habitat.</p> <p>Less than significant impacts on the Clark County MSHCP and the BCCE with mitigation and compliance discussions.</p> <p>Compared with the proposed project, impacts from Transmission Alternative Route A would be of moderate intensity.</p>	<p>Impacts similar to those of the proposed route, but would result in a net increase in the extent and magnitude of direct and indirect impacts associated with placement of new towers and creation of new ROW and spur roads.</p> <p>Alternative B would result in an additional 3.7 miles of transmission line and 5.6 miles of new ROW, which would increase the acreage of permanent and temporary impacts to the native vegetation community by 10 acres and 129 acres, respectively.</p> <p>This alternative could result in fewer crossings of intermittent streams than the proposed project, which would decrease impacts to desert wash habitat and wildlife using this habitat.</p> <p>Compared with the proposed project, Alternative Route B would increase impacts to desert tortoise.</p> <p>Less than significant impacts on the Clark County MSHCP and the BCCE with mitigation and compliance discussions.</p> <p>No difference from the proposed project in the duration or severity of impacts.</p>	<p>Reduced impacts to the Ivanpah Dry Lake bed and disturbance to wildlife species using the vegetation and/or the lake bed as habitat.</p> <p>Fewer crossings of intermittent streams with this alternative.</p> <p>Increased extent of permanent and temporary impacts by 6.5 acres and 79 acres, respectively, to the native vegetation community and any wildlife or special-status species that use this habitat.</p> <p>Increase in spatial extent would increase the potential for disturbing wildlife and increasing wildlife mortality and the potential for direct or indirect loss of listed or sensitive wildlife and their required habitat.</p> <p>The primary issue for this alternative would be greater impacts to the desert tortoise. Compared with the proposed route, this alternative would cross higher quality desert tortoise habitat.</p> <p>Less than significant impacts on the Clark County MSHCP and the BCCE with mitigation and compliance discussions.</p> <p>No difference in the duration or severity of impacts from that of the proposed project.</p>	<p>Reduced impacts to the Ivanpah Dry Lake bed. Net increase in the extent and magnitude of direct and indirect impacts from removal of habitat for placement of new towers and creation of new ROW and spur roads.</p> <p>Increase of temporary impacts by 60 acres, and increase of permanent impacts by 1.2 acres. Overall impacts to native vegetation would increase, as well as the potential for impacts to special-status species.</p> <p>Impacts on the pink funnel lily, which is absent from the proposed transmission line route.</p> <p>Potential for disturbing wildlife and causing increased wildlife mortality, and direct or indirect loss of listed or sensitive wildlife and their required habitat.</p> <p>Alternative D would cross only a slightly greater amount of desert tortoise habitat and therefore would have a potential of impacting desert tortoise similar to that of the proposed project.</p> <p>No difference in the duration, severity, or extent of impacts from that of the proposed project.</p>	<p>Same as Transmission Alternative Route D.</p> <p>Net increase in the extent and magnitude of direct and indirect impacts.</p> <p>The additional land disturbances associated with the other underground segments and with pole replacement would result in a total increase in temporary and permanent losses to the native vegetation.</p> <p>There would also be the potential to introduce and further spread invasive and noxious weeds with any new soil disturbances.</p> <p>This alternative could result in beneficial impacts to raptors in the area, compared with the impacts of the proposed project. More perching and nesting posts would be available to raptors with the increase in the number of towers to be installed.</p> <p>The additional communication line located between the Town of Nipton and I-15 would cross approximately 12.9 miles of designated desert tortoise critical habitat.</p> <p>Compared with the proposed project, this alternative would increase potential impacts on desert tortoise due to the significantly increased impacted critical habitat acreage.</p> <p>No difference from the proposed project in the duration, severity, or extent of impacts.</p>	<p>Net increase in the extent and magnitude of direct and indirect impacts.</p> <p>This alternative would cross a more diverse set of vegetation habitat types, potentially impacting a more diverse range of plants and wildlife, and numerous sensitive plant species identified in botanical surveys.</p> <p>An increase in the acreage of previously undisturbed habitat would increase the potential for introduction of invasive, non-native, or noxious plant species.</p> <p>Potential greater impacts on wildlife due to construction noise and human disturbance close to areas that provide habitat for desert bighorn sheep and montane bird species.</p> <p>This alternative would cross an additional 9.7 miles of designated desert tortoise critical habitat.</p> <p>Potential beneficial impacts on raptors in the area from additional new towers.</p> <p>Compared with the proposed project, this alternative's impacts would be of moderate intensity.</p>	

Table 4-1 Comparison of Alternatives

ENVIRONMENTAL RESOURCE	Proposed Project	PROJECT ALTERNATIVES						
		Transmission Alternative Route A	Transmission Alternative Route B	Transmission Alternative Route C	Transmission Alternative Route D	Transmission Subalternative Route E	Golf Course Telecommunication Alternative	Mountain Pass Telecommunication Alternative
CULTURAL RESOURCES	<p>The project would have direct, adverse, and permanent impacts to Cultural Resources 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H)/26CK4957. After mitigation, potential impacts would be minimized or reduced to less than significant.</p> <p>Potential impacts on human remains, if there are unanticipated discoveries during construction, would be reduced to less than significant with implementation of APMs.</p> <p>Disturbance of previously unidentified cultural resources would have a less than significant impact with implementation of APMs and mitigation.</p>	<p>No previously recorded cultural resources are located in this alternative route. No newly discovered cultural resources were found during field surveys. This alternative would have no impacts on known cultural resources.</p> <p>There would be a potential for buried, and therefore previously unidentified, cultural resources or human remains.</p> <p>After mitigation, impacts would be negligible and less than significant.</p>	<p>No previously recorded cultural resources are located in this alternative route. No newly discovered cultural resources were found during field surveys. There would be no impacts to known cultural resources.</p> <p>There would be potential for buried, and therefore previously unidentified, cultural resources or human remains.</p> <p>Less than significant, negligible impacts after mitigation.</p>	<p>This alternative would result in significant direct adverse permanent impacts to 36-10315 (CA-SBR-10315H) and 36-7694 (CA-SBR-7694H)/26CK4957), as would the proposed project.</p> <p>There would be no impacts to cultural sites 36-7689 (CA-SBR-7689H) or 26CK4135, because they are not eligible for the NRHP.</p> <p>Alternative C traverses the same sediments as the proposed project, which have the potential for buried, and therefore previously unidentified, cultural resources. Less than significant, negligible impacts after mitigation.</p>	<p>No impact to Cultural Resource 36-13416 (CA-SBR-12574H) because this site has been recommended not eligible for the NRHP.</p> <p>Transmission Alternative D is associated with the Boulder Transmission Line; it will be included with the Historic American Engineering Record assessment for that line.</p> <p>Potential for buried, and therefore previously unidentified, cultural resources. Less than significant, negligible impacts after mitigation.</p>	<p>Subalternative E contains no previously recorded cultural resources, and no cultural resource was discovered during the field survey for this subalternative; therefore, no impacts to known cultural resources would occur.</p>	<p>Impacts would be similar to those of the proposed project, although no known cultural resources are located in this alternative. No significant impacts after mitigation.</p>	<p>Impacts would be similar to those of the proposed project, although no known cultural resources are located in this alternative. No significant impacts after mitigation.</p>
GEOLOGY AND SOILS	<p>Minor long-term impacts to geology and soil resources could occur. Disturbance of the existing ground surface and natural drainages could cause minor erosion-related impacts. Operations and maintenance activities would result in continued erosion.</p> <p>Expansive soils could result in low to moderate levels of structural failure of the transmission and telecommunication line poles and towers and the Ivanpah Substation. There is also the potential for impacts as a result of changing geologic conditions including seismic events (fault rupture and ground shaking), subsidence, or liquefaction. Numerous non-metallic and metallic mineral deposits occur along or near the transmission line route.</p> <p>Several paleontological resources exist within 1 mile of the proposed project and one paleontological resource location is within 300 feet. All potentially significant geology, soil, mineral, and paleontological impacts would be mitigated to less than significant levels.</p>	<p>Transmission Alternative Route A is similar to the proposed project in terms of geology, soils, and mineralogical materials. It is also similar in topography, and its impacts would be similar to those of the proposed project.</p> <p>Ground-disturbing activities as part of geotechnical investigations along Alternative Route A could impact buried paleontological resources in underlying sedimentary formations of high paleontological sensitivity. Impacts would be less than significant without mitigation.</p>	<p>Transmission Alternative Route B is similar to the proposed project in terms of geology, soils, and mineralogical materials. It is also similar in topography.</p> <p>Direct impacts and mitigation associated with this alternative route are similar to those for Alternative Route A.</p>	<p>Similar to the proposed project in terms of geology, soils, and mineralogical materials. It is also similar in topography.</p> <p>The Mesquite segment of the SFS crosses Alternative Route C along the California-Nevada border at Primm nearly perpendicular to the proposed route. This impact would be negligible and localized, and would be short term relative to construction but long term with respect to operations and maintenance.</p> <p>Direct impacts to buried paleontological resources from ground-disturbing activities.</p>	<p>Impacts and mitigation similar to those in Transmission Alternative Route C and the proposed project.</p>	<p>Impacts and mitigation similar to those in Transmission Alternative Route C and the proposed project.</p> <p>Located in similar geology, soils, and mineralogical materials as the proposed project.</p> <p>Tower construction and ground-disturbing activities could impact paleontological resources in areas where underlying formations have high paleontological sensitivity.</p> <p>After mitigation, this alternative would result in less than significant impacts.</p>	<p>Similar to the proposed route, except it does not cross the SFS Mesquite segment.</p> <p>Located in similar geology, soils, and mineralogical materials as the proposed project.</p> <p>Tower construction and ground-disturbing activities could impact paleontological resources in areas where underlying formations have high paleontological sensitivity.</p> <p>After mitigation, this alternative would result in less than significant impacts.</p>	<p>Located in similar geology, soils, and mineralogical materials as Transmission Alternative Routes C and D and Subalternative E in the lower elevations. Also includes earlier Precambrian metamorphic bedrock of the Clark Mountains.</p> <p>Topography ranges from relatively flat low-lying valley bottoms and playa to moderately steep hill slopes in the area of Mountain Pass Substation.</p> <p>Minor, localized, long-term impacts of the project could result from both landslides and erosion. With mitigation, these impacts would be reduced to less than significant.</p>

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ENVIRONMENTAL RESOURCE	Proposed Project	PROJECT ALTERNATIVES						
		Transmission Alternative Route A	Transmission Alternative Route B	Transmission Alternative Route C	Transmission Alternative Route D	Transmission Subalternative Route E	Golf Course Telecommunication Alternative	Mountain Pass Telecommunication Alternative
HAZARDS, HEALTH, AND SAFETY	<p>Minor, localized, short term impacts during construction and operation and maintenance.</p> <p>Less than significant impacts with mitigation associated with: hazards created through routine transport, use, or disposal of hazardous materials; hazards created through accidental release of hazardous materials into the environment; increased safety hazards for people residing or working within 2 miles of a public airport or public use airport.</p> <p>Less than significant impacts without mitigation related to the exposure of the public or environment to contaminated soil or groundwater, interference with an adopted emergency response plan or emergency evacuation plan, and the exposure of people or structures to wildland fires. No impact on an existing or proposed school.</p>	<p>Incrementally less impact associated with the improper management or release of hazardous materials because this alternative is shorter than the proposed project. The potential to encounter contaminated soil would also incrementally decrease.</p> <p>If contaminated soils were encountered, impact would remain short term, minor, and less than significant.</p> <p>Potential impacts on health and safety, emergency response/evacuation routes, airports, and the risk of wildfires would be less than significant.</p>	<p>Similar impacts to the proposed project; no significant impacts after implementation of APMs and mitigation.</p>	<p>Impact on intermittent streams would be reduced due to fewer crossings, and the likelihood of impacting water resources would be reduced.</p> <p>More likely to present obstruction and/or hazards to aviation than the proposed project, due to the proximity to the proposed SNSA.</p> <p>Greater potential for ground-disturbing activities and construction within 5.2 miles of new ROW. The potential to encounter contaminated soil would incrementally increase; the impact, if contaminated soils were encountered, would be short term, minor, and less than significant.</p>	<p>Decreased risk to present obstructions and/or hazards to aviation than the proposed project or Alternative C.</p> <p>Decreased risk of improper management of hazardous materials, spills, and uncovered contaminated soils.</p>	<p>Same as Transmission Alternative Route D.</p>	<p>Increased risk of accidents associated with hazardous materials due to the increased length of the construction period and additional length of telecommunication line.</p> <p>Potential crossings of hazardous materials sites:</p> <ul style="list-style-type: none"> Closed land disposal site (Biogen Plant), buried underneath the Primm Valley Golf Course Possible underground storage tank at the southeast quadrant of the I-15/Yates Well Road interchange in Nipton, California. <p>This alternative could result in moderate, adverse direct impacts due to the potential of exposing potential contamination along this route.</p>	<p>Increased risk of accidents associated with hazardous materials due to the increased length of the construction period and additional length of telecommunication line.</p> <p>Potential crossing through Molycorp Mine, which is listed as a hazardous site (DTSC 2009). However, this portion of the telecommunication line would be an overhead wire.</p> <p>Mitigation would reduce the risks associated such that the impact would be minor, short term, and less than significant with mitigation, although incrementally greater than the proposed project.</p>
HYDROLOGY AND WATER QUALITY	<p>Impacts to hydrology would be localized and would range from minor to moderate intensity.</p> <p>Minor, localized, and short term impacts from the introduction of hazardous contamination into surface water resources during construction.</p> <p>Potential to alter the flow or degrade the quality of groundwater to natural systems or wells for private or municipal use.</p> <p>No impacts to groundwater quality because the depth to groundwater at the proposed project site is more than 500 feet.</p> <p>Under CEQA, all impacts of the proposed project would be less than significant with mitigation measures; these impacts include:</p> <ul style="list-style-type: none"> Hazardous contamination into surface and groundwater; Increased erosion or siltation due to alteration of surface drainage patterns and altered course of stream or river due to 	<p>Water resources and topography are similar to those of the proposed project.</p> <p>All impacts would be direct and adverse. Minor, localized, short-term impacts associated with surface and groundwater contamination.</p> <p>Minor to moderate extensive, long-term impacts associated with potentially lowering the local water table due to water use and redirection or modification of flood flows by construction equipment or tower footings.</p>	<p>Water resources and topography similar to those of the proposed project.</p> <p>All impacts would be direct and adverse. Minor, localized, short-term impacts associated with surface and groundwater contamination.</p> <p>Impacts similar to those of Transmission Alternative A.</p>	<p>Water resources and topography similar to those of the proposed project.</p> <p>All impacts would be direct and adverse. Minor, localized, short-term impacts associated with surface and groundwater contamination.</p> <p>Impacts similar to those of the proposed project.</p>	<p>Water resources and topography similar to those of the proposed project.</p> <p>Transmission Alternative D is co-located with an existing transmission line through Ivanpah Dry Lake and, therefore, would not additionally contribute to the disturbance of surface drainage patterns on the dry lake bed.</p> <p>Impacts similar to those of the proposed project.</p>	<p>Same as Transmission Alternative D.</p>	<p>Impacts similar to those of the proposed project although there would be no additional contribution to the disturbance of surface drainage patterns on the dry lake bed. Impacts less than significant with mitigation.</p>	<p>Similar to the proposed project in that they are located in the same vicinity and would have similar impact on water resources.</p> <p>This alternative extends into the foothills of the Clark Mountain Range, while the proposed project route crosses the Ivanpah Valley.</p>

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	<p>modification of surface drainage patterns;</p> <ul style="list-style-type: none"> Modified runoff characteristics and exposure to a significant risk of flooding and the modification of runoff characteristics, possibly leading of flooding or inundation by mudflow. <p>Less than significant impacts without mitigation associated with lowering of water table or interference with aquifer recharge and placement of structures in a 100-year flood hazard area.</p>							
LAND USE	<p>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 due to construction.</p> <p>Construction of the substation would result in a long-term, localized, adverse negligible impact on the Clark Mountain Allotment.</p> <p>Construction of the proposed project could have adverse impacts on land uses within the BCCE and the Ivanpah Airport Environs Overlay area; however, impacts would be reduced with mitigation. Under CEQA, these potential conflicts would be less than significant with mitigation.</p> <p>The proposed project would not divide an established community, nor would it conflict with Clark County MSHCP.</p>	<p>Transmission Alternative Route A would be constructed entirely within a BLM-designated utility corridor, thus avoiding potential conflicts with the BCCE. Impacts resulting from Transmission Alternative Route A would therefore be less than those from the proposed project.</p>	<p>Similar to Transmission Alternative Route A.</p>	<p>Alternative C would be constructed within allowable uses on BLM lands designated as Open Public Lands, a Nevada Department of Transportation Corridor, and private lands in unincorporated Clark County land designated as commercial land.</p> <p>Adoption of Transmission Alternative C would temporarily restrict access to one mining claim during construction.</p>	<p>Transmission Alternative Route D would have no impact on land use.</p>	<p>Same as Transmission Alternative Route D.</p>	<p>Adoption of this alternative would temporarily restrict access to one mining claim during construction; therefore, the Golf Course Alternative would have a short-term, negligible impact on mining in the area.</p>	<p>Adoption of this alternative would temporarily restrict access to four mining claims during construction; therefore, the Mountain Pass Alternative would have a short-term, negligible adverse impact on mining in the area.</p>

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		Transmission Alternative Route A	Transmission Alternative Route B	Transmission Alternative Route C	Transmission Alternative Route D	Transmission Subalternative Route E	Golf Course Telecommunication Alternative	Mountain Pass Telecommunication Alternative
NOISE	<p>Minor adverse noise impacts due to project construction at residences at the Desert Oasis Apartment Complex. The operation and maintenance of the transmission line, substation, and telecommunication line would not result in adverse noise impacts.</p> <p>Less than significant impacts with mitigation associated with project construction noise. Less than significant impacts without mitigation from transmission line operation and maintenance noise, groundborne vibration, or groundborne noise due to construction activities or operations.</p> <p>No impacts would occur as a result of the project construction and operation and maintenance in the proximity of public airports, or from exposing people residing or working in the vicinity of a private airstrip to excessive noise levels.</p>	<p>Impacts similar to those of the proposed project. There would be no change to the proposed project route near sensitive receptors.</p>	<p>Impacts similar to those of the proposed project. There would be no change to the proposed project route near sensitive receptors.</p>	<p>Reduced potential construction noise impacts on the Desert Oasis Apartment Complex, compared with noise from the proposed project.</p> <p>Potential construction noise impacts associated with Transmission Alternative C would be minor and less than significant. The remaining impacts would be similar to those of the proposed project.</p>	<p>Transmission Alternative D would relocate a portion of the proposed transmission line away from the nearest sensitive receptor (Desert Oasis Apartment Complex). This relocation would likely result in a decrease in potential construction noise impacts on the Desert Oasis Apartment Complex; impacts would still be adverse and minor, but less than significant.</p> <p>The remaining impacts would be similar to those of the proposed project.</p>	<p>Same as Transmission Alternative D.</p>	<p>This alternative is located several miles from the Desert Oasis Apartment Complex and would not have any adverse noise impacts on this receptor or result in any other construction noise impacts.</p> <p>Operational noise impacts would not result in any adverse noise impacts. There would be no groundborne noise or vibration impacts during construction and operation of this alternative.</p>	<p>This alternative is several miles from the Desert Oasis Apartment Complex and would not have any adverse noise impacts on this receptor or result in any other construction noise impacts.</p> <p>Operational noise impacts would not result in any adverse noise impacts. There would be no groundborne noise or vibration impacts during construction or operation of this alternative.</p>
PUBLIC SERVICES AND UTILITIES	<p>Impacts on emergency response services (such as fire, police, and medical services) during construction would be short term and negligible with the implementation of mitigation measures.</p> <p>During operations, 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.</p> <p>Potentially significant impacts associated with the temporary increase of water use would occur during construction and increased long-term water consumption during operation.</p> <p>Less than significant impacts with mitigation associated with solid waste generated during construction to comply with federal, state, or local statutes or regulations. No impact on the requirement of new or physically altered public facilities, compliance with requirements of the Regional Water Quality Control Board, or the need for new storm water drainage facilities.</p>	<p>Transmission Alternative Route A would reduce the length of the proposed project route. As a result, impacts on public services and utilities might differ slightly but would not be substantively different from those of the proposed project.</p>	<p>Transmission Alternative Route B would reduce the length of the proposed project route. As a result, impacts on public services and utilities might differ slightly but would not be substantively different from those of the proposed project.</p>	<p>Transmission Alternative Route C would reduce the length of the proposed project route. As a result, impacts on public services and utilities might differ slightly but would not be substantively different from those of the proposed project.</p>	<p>Negligible increase in the amount of solid waste generated from excavation activities and the amount of water required for dust suppression and cleaning.</p> <p>Impacts on public services and utilities would not be substantively different from those of the proposed project.</p>	<p>Same as Transmission Alternative Route D</p>	<p>Impacts similar to those of the proposed project.</p> <p>There would be a moderate increase in the amount of water required for dust suppression, cleaning, and other activities.</p> <p>The amount of solid waste from excavation activities and pole replacement would increase.</p> <p>Impacts on public services and utilities would not be substantively different from those of the proposed project.</p>	<p>Impacts similar to those of the proposed project.</p> <p>The amount of water required and solid waste generated would be slightly greater than under the Golf Course Telecommunication Alternative.</p> <p>The amount of solid waste from excavation activities and pole replacement would increase.</p> <p>Impacts on public services and utilities would not be substantively different from those of the proposed project.</p>

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RECREATION	<p>The proposed project would cross the Jean/Roach Dry Lake Recreation Area between MPs 10 and 27.5. Construction activities would be limited to the construction ROW and would be minor, short term, localized, and negligible. With mitigation, there would be no significant adverse effects on wilderness areas or recreational opportunities.</p> <p>No additional impacts on recreation or wilderness areas would occur as a result of project construction or as a result of operation and maintenance of the substation or telecommunications line.</p> <p>Less than significant impacts with mitigation related to disruption of access to existing recreation opportunities. No impacts associated with increased use of, or construction or expansion of, recreational facilities.</p>	<p>The potential construction and operation impacts on wilderness areas and recreational opportunities of this alternative would be similar to those of the proposed project.</p>	<p>The potential construction impacts on wilderness areas and recreational opportunities of Transmission Alternative Route B are similar to those of the proposed project.</p>	<p>This alternative would have construction impacts on wilderness areas and recreational opportunities similar to those associated with the proposed project, but this alternative would avoid construction impacts on Ivanpah Dry Lake.</p> <p>Construction impacts would be negligible and less than significant. There would not be any operational impacts associated with this alternative.</p>	<p>By reducing the transmission line footprint across Ivanpah Dry Lake, this alternative would leave more space for recreation, which would have a beneficial but negligible effect.</p> <p>Construction of this alternative would temporarily restrict access to the northwestern area of the Ivanpah Dry Lake Recreation Area, resulting in a short-term, moderate impact. With mitigation, this impact would be reduced to less than significant.</p> <p>There would not be any operational impacts associated with this alternative.</p>	<p>Same as Transmission Alternative Route D.</p>	<p>Installation of underground components during construction would not prohibit or restrict access to the Primm Valley Golf Club, but could result in temporary and minor impacts from noise and dust. Impacts would be minimized to negligible and less than significant through coordination with golf course management personnel.</p> <p>There would not be any operational impacts associated with this alternative.</p>	<p>The potential construction and operation impacts on wilderness areas and recreational opportunities of this alternative would be similar to those associated with the proposed project.</p>
SOCIOECONOMICS, POPULATION AND HOUSING	<p>Negligible, short-term, beneficial impact on the region's economy during construction and a negligible impact on area incomes during operation of the EITP.</p> <p>Localized, negligible, short-term, beneficial impact on the region's labor force and employment during construction and a negligible impact on labor during operations.</p> <p>Impacts on minority and low-income populations would be negligible, as would impacts on the tourism industry.</p> <p>No impacts have been identified for induced population growth, demand of permanent or temporary housing, or displacement of existing residences.</p>	<p>Socioeconomic conditions are similar in this area to those discussed for the proposed project route.</p> <p>This alternative would not directly induce substantial population growth, displace existing residents or housing, result in disproportionately high or adverse impacts on minority or low-income populations, or necessitate the construction of housing, and no impacts would result.</p>	<p>Socioeconomic conditions are similar in this area to those discussed for the proposed project route.</p> <p>This alternative would not directly induce substantial population growth, displace existing residents or housing, result in disproportionately high or adverse impacts on minority or low-income populations, or necessitate the construction of housing, and no impacts would result.</p>	<p>Impacts on the Desert Oasis Apartment Complex would be less than those of the proposed project.</p> <p>This alternative would not directly induce substantial population growth, displace existing residents or housing, result in disproportionately high or adverse impacts on minority or low-income populations, or necessitate the construction of housing, and no impacts would result.</p>	<p>Reducing the transmission line footprint across the Ivanpah Dry Lake would leave more open space for recreation, which would have a beneficial but negligible effect on the local economy.</p> <p>The socioeconomic conditions and impacts resulting from these alternatives would be similar to those for Transmission Alternative Route C.</p>	<p>Same as for Transmission Alternative Route D.</p>	<p>This alternative would incur increased costs associated with telecommunication line undergrounding construction, which requires a longer construction period. The applicant would coordinate with the owners of the Primm Golf Course to minimize disruption to the facility's operations.</p> <p>This alternative would not directly induce substantial population growth, displace existing residents or housing, result in disproportionately high or adverse impacts on minority or low-income populations, or necessitate the construction of housing, and no impacts would result.</p>	<p>In general, socioeconomic impacts would be similar to those of the proposed project.</p> <p>This alternative would not induce substantial population growth, displace existing residents or housing, result in disproportionately high or adverse impacts on minority and low-income populations, or necessitate the construction of housing, and no impacts would result.</p>

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TRAFFIC AND TRANSPORTATION	<p>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>Operation would not result in adverse traffic impacts. Maintenance activities associated with substations and transmission lines would not require additional vehicles beyond those used for current operations and maintenance procedures.</p> <p>Less than significant impacts without mitigation associated with traffic load and capacity, level of service standard, and emergency access. No impact related to inadequate parking capacity; conflict with policies, plans, or programs supporting alternative transportation; change of air traffic patterns; or closure of major roads during construction.</p>	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.	Similar impacts to those of the proposed project.

Key:
AES = Aesthetics
APM = Applicant proposed measure
BCCE = Boulder City Conservation Easement
BLM = Bureau of Land Management
CEQA = California Environmental Quality Act
GHG = Greenhouse gas
KOP = Key observation point
kV = Kilovolt
MP = Milepost
MSHCP = Multiple Species Habitat Conservation Plan
NEPA = National Environmental Policy Act
NRHP = National Register of Historic Places
ROW = Right-of-way
SFS = Stateline Fault System
SNSA = Southern Nevada Supplemental Airport
SR = State Route
SRMA = Special Recreation Management Area
VRI = Visual Resource Inventory
VRM = Visual Resource Management
VRM Class II =