

3.2 Visual Resources

This section contains a description of the environmental setting, regulatory setting, and potential impacts associated with the construction and operation of the proposed project and alternatives with respect to visual resources.

3.2.1 Environmental Setting

The existing environmental setting for visual resources is described in terms of the existing landscape and potential viewers. The existing environmental setting is described broadly to provide an overall context for the region in which the proposed project would be located. Representative views of the proposed locations for project components and the proposed routes for the transmission and telecommunications lines are included to support the textual description of the existing landscape; the locations from which these photos were taken are indicated in Figure 3.2-1.

Potential viewers are described in terms of the number of viewers, duration of views, distance between the viewer and the proposed project, and viewer expectation. Viewer groups include motorists along Interstate 15, Nipton Road, and Highway 95; recreational users in the area including OHV enthusiasts, kite surfers, users of the Primm Valley Golf Course, and hunters; residents of the Desert Oasis Apartment Complex in Primm, Nevada; visitors to the Town of Primm; residents of the communities of Nipton and Mountain Pass, California; and dispersed recreationists in Wilderness Areas. Viewer expectation considers viewer activity, adjacent land uses, special management areas in the vicinity, and any federal, state, or local regulations that protect visual resources in the area (BLM Manual H-8410-1). Figure 3.4-6, in Section 3.4, "Biological Resources", shows the specially designated areas that are considered in this section's visual resources analysis. Public concern expressed about the visual impact of the proposed project is also taken into account to describe the sensitivity of viewers.

Distance zones used to discuss views are consistent with BLM standard definitions. These are foreground (0 to 1 mile), middleground (1 to 3 miles), background (3 to 5 miles), and seldom-seen views (greater than 5 miles) (BLM Manual H-8410-1). Generally, increased visual contrast within foreground distances would be more noticeable to viewers than increased visual contrast within background distances.

Based on the potential viewer groups and sensitivity of those groups, distance zones, landscape features, and consultation with the CPUC and the BLM, KOPs were selected. These KOPs represent both sensitive and typical views in the proposed project area and form the bases of the visual analysis. The locations of the KOPs are shown on Figure 3.2-1. Contrast rating forms were completed for each of the KOPs following site visits in August of 2008; the contrast rating forms are included in Appendix C. The following KOPs were used for this analysis:

- KOP 1: View of the Transmission Corridor Looking Northeast toward the McCullough Mountain Range
- KOP 2: View from the South McCullough Wilderness Area
- KOP 3: View from Interstate 15 near Jean, Nevada
- KOP 4: View from the Desert Oasis Apartments in Primm, Nevada
- KOP 5: View from Ivanpah Dry Lake, East of Interstate 15
- KOP 6: View from Interstate 15 near Primm, Nevada
- KOP 7: View from Highway 95 in the Eldorado Valley
- KOP 8: View from Highway 164 Overpass in the Ivanpah Valley

1 The EITP would be located in the Basin and Range province, which includes the southwestern United States and
2 northwestern Mexico.¹ This geographic region is characterized by generally north-trending high mountain ranges and
3 intervening dry, alluvium-filled, flat-floored valleys (NASA 1986). The proposed project extends from the Ivanpah
4 Valley in San Bernardino, California, to the Eldorado Valley in Clark County, Nevada (Figure 3.2-1). The physical
5 setting of the proposed project and viewer groups would vary for each proposed project component and at various
6 locations along the transmission and telecommunication routes as described below.

8 **3.2.1.1 Transmission Line**

10 The proposed transmission line would replace a segment of the existing single-circuit 115-kV Eldorado–Baker–
11 Coolwater–Dunn Siding–Mountain Pass transmission line. The transmission line would run northeast from the
12 proposed Ivanpah Substation and would proceed across Ivanpah Valley, across Ivanpah Dry Lake, through the town
13 of Primm, Nevada, southeast of Roach Dry Lake, north of the Lucy Gray Mountains, and across the McCullough
14 Mountains to the existing Eldorado Substation. Ivanpah Dry Lake and Roach Dry Lake are flat, unvegetated, and light
15 in color compared to the surrounding terrain. The town of Primm consists of numerous casinos, commercial
16 establishments, and some housing units. The Lucy Gray, Clark, and McCullough mountain ranges are jagged,
17 visually prominent geologic formations that form the backdrop of views from the valley floor.

19 Figure 3.2-2 depicts the town of Primm, the Ivanpah Valley, the Lucy Gray Mountains, and the existing transmission
20 line route. This view is typical of views surrounding the town of Primm. The view is characterized by primarily flat
21 terrain with diagonally inclined low hills at the edge of the view and a rough, jagged mountain range in the
22 background. The vegetation consists primarily of medium to tall native brush with low-lying ground cover. Dark brown
23 distribution poles and gray lattice steel towers (LSTs) are present in this view, as is the town of Primm.

25 Motorists driving on Interstate 15 (I-15) in California and Nevada have views of the proposed project area. The
26 proposed project area is also visible to recreational users of the dry lakes in the region. The Primm Valley Golf Club
27 is located approximately 0.5 miles southeast of the proposed transmission line route. The existing recreational setting
28 and potential impacts to recreational users are discussed in detail in Chapter 3.12, “Recreation.”

30 Urban uses adjacent to the transmission line include casinos in Primm, Nevada; the Desert Oasis Apartment
31 Complex in Primm, Nevada; and the Bighorn Electric Generating System east of I-15. Additionally, the transmission
32 line would be visible from the railroad tracks that parallel I-15.

34 **3.2.1.2 Ivanpah and Eldorado Substations**

36 The proposed Ivanpah Substation would be located in the Ivanpah Valley, a primarily flat area with a vegetative cover
37 of even, low-lying shrubs broken by unvegetated dry lakes. Figure 3.2-3 shows the proposed Ivanpah Substation
38 location as seen from the Primm Valley Golf Club. The terrain in this view is generally horizontal with topographic
39 variations and a rock outcrop visible in the middleground; the Clark Mountain Range is visible in the background. The
40 vegetation in this view is predominantly low shrubs and ground cover, with a random distribution of medium to -tall
41 bushes. In the middleground of the view, H-frame transmission towers and LSTs are visible; no structures are visible
42 in the foreground or background.

¹ The Basin and Range province is a physiographic province or “surface unit,” a naturally defined region with homogeneous landforms and landscapes.

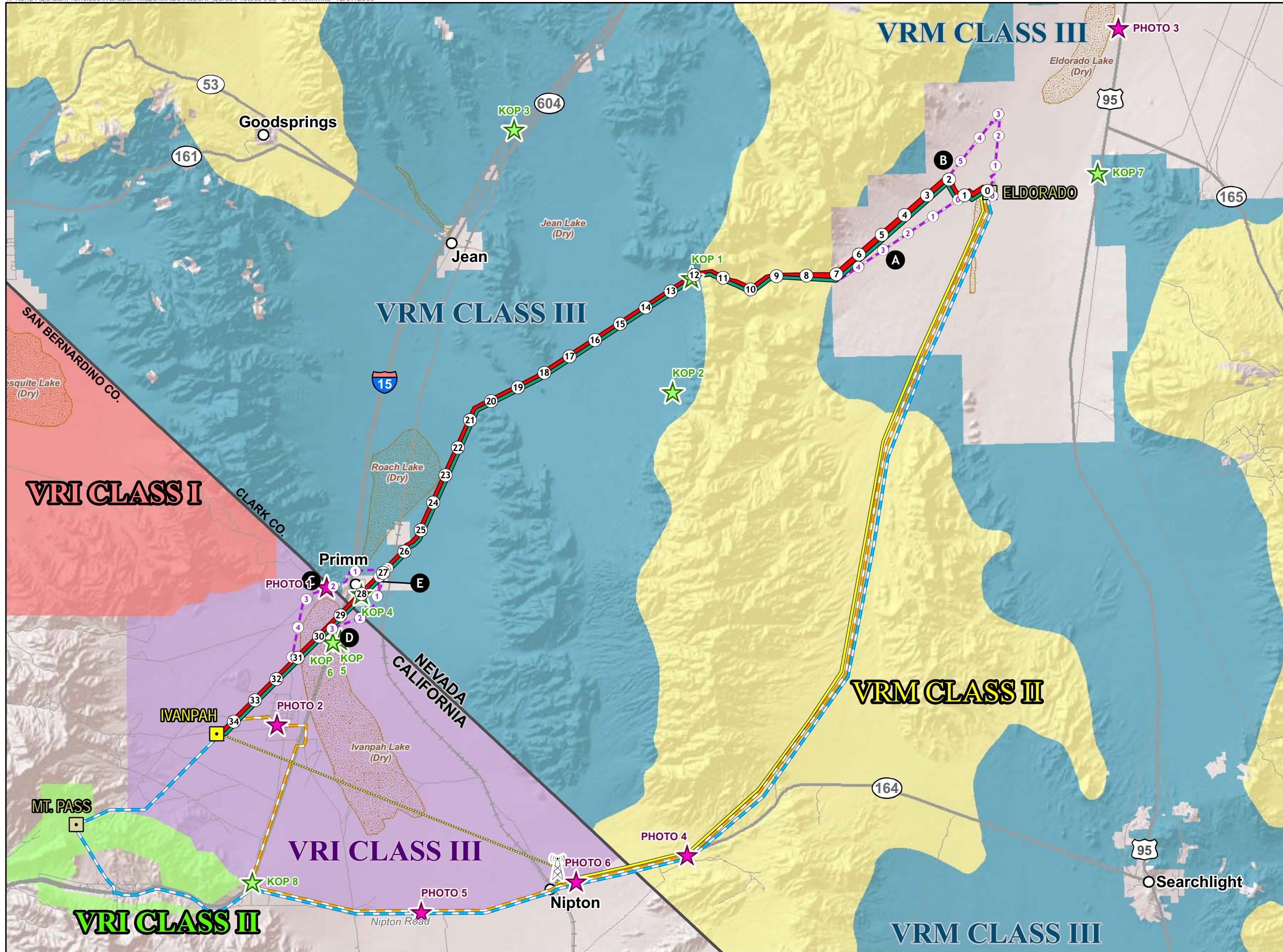


Figure 3.2-1
Eldorado-Ivanpah
Transmission Project
Visual VRM and
VRI Classes

PROPOSED PROJECT

- Transmission L. line
- Telecommunications Line
- Redundant Telecommunications Line
- Microwave

ALTERNATIVES

- Transmission Line Alternatives
- Redundant Telecommunications Line - Mountain Pass
- Redundant Telecommunications Line - Golf Course

Infrastructure

- Proposed Microwave Tower
- Proposed Substation
- Existing Substation
- City
- Road
- BLM Land
- NPS
- Proposed Southern Nevada Supplemental Airport

Visual Resource Management

- Class II
- Class III

Visual Resource Inventory

- Class I
- Class II
- Class III
- KOP Location
- Photo Location

0 1 2 3 4 5
Miles
March 2010



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Character Photo 1 - View from a dirt road west of the city of Primm looking southeast toward the existing and proposed transmission line

Figure 3.2-2
Character Photo 1

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Character Photo 2 - View from the Primm Valley Golf Club looking west toward the site of the proposed Ivanpah Substation

Figure 3.2-3
Character Photo 2

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1 The Eldorado Substation is located in the Eldorado Valley, east of the McCullough Mountain Range. The Eldorado
2 Substation is approximately 1.5 miles east of the existing Solar One facility. Figure 3.2-4 shows the existing Eldorado
3 Substation from the Eldorado Dry Lake west of Highway 95. The view shows the predominantly flat dry lake and
4 Eldorado Valley with the McCullough Mountain Range visible in the background. The dry lake primarily has a
5 continuous firmly packed fractured texture; no vegetation is visible from this location. The existing Eldorado
6 Substation and nearby solar generation facility appear indistinct from this location.

7
8 Motorists driving on I-15 in California have views of the proposed project area near the proposed location of the
9 Ivanpah Substation. The proposed substation would be located approximately 2 miles east of the Primm Valley Golf
10 Club. The town of Primm, Nevada, is approximately 6 miles northeast of the proposed substation site. The nearest
11 topographical feature to the proposed Ivanpah Substation is a metamorphic outcrop west of I-15.

12
13 The existing Eldorado Substation is approximately 3.5 miles west of Highway 95 and approximately 10 miles
14 southwest of Boulder City, Nevada.

15 16 **3.2.1.3 Telecommunications Route**

17
18 The proposed telecommunications line would run southwest on the existing 500-kV Eldorado–Lugo Transmission
19 Line from the Eldorado Substation between the McCullough and Highland mountain ranges to Nipton Road, near the
20 California-Nevada border. The terrain in this location is rough and rolling with varying changes in elevation. The
21 vegetation visible in this view consists primarily of low-lying native shrubs and randomly spaced Joshua trees. The
22 existing 500-kV transmission line is strung on gray angular LSTs and H-frame LSTs (Figure 3.2-5). The 500-kV
23 transmission line is strung on the larger of the two structures visible in this photograph; at this location, the line is
24 strung on LSTs.

25
26 The telecommunications line would then proceed underground along the northern edge of Nipton Road (Figure 3.2-
27 6); Nipton Road forms the northern boundary of the Mojave National Preserve (MNP). A distribution line strung on
28 wooden poles currently runs along the southern edge of Nipton Road. The town of Nipton, California is visible in the
29 background of Figure 3.2-6.

30
31 Near the town of Nipton on the northern boundary of the MNP, a microwave tower would be constructed. Figure 3.2-7
32 shows the proposed microwave tower location; the town of Nipton is visible in the foreground-middleground distance
33 zone in this photograph. The microwave tower would transmit and receive communication from a second microwave
34 tower that would be installed within the proposed Ivanpah Substation. The terrain in this view is gently sloping away
35 from the viewer with the predominantly flat dry lake and the New York Mountain Range visible in the background.
36 The vegetation visible in this view consists of low-lying native shrubs with manicured vegetation visible in the
37 middleground near the town of Nipton, California. The texture of the foreground view is rough with randomly spaced
38 vegetation; the texture of background views includes the flat, smooth dry lake and the jagged mountain range.

39
40 The existing 500-kV Eldorado–Lugo transmission line is visible to dispersed recreational users in the South
41 McCullough Wilderness Area, within Eldorado Valley, and from the Wee Thump Joshua Tree Wilderness Area.
42 Motorists along Nipton Road/Highway 164 also have views of a segment of the Eldorado-Lugo transmission line near
43 the California/Nevada border. Motorists along Nipton Road, recreational users of the MNP, and residents in the town
44 of Nipton, have views of the proposed project area where the telecommunications route would be undergrounded
45 and where the microwave tower would be located.

46 47 **3.2.1.4 Transmission Line Minor Route Variations**

48
49 There are five minor route variations to the proposed transmission line route (Figure 3.2-1). Alternative A would
50 bypass a segment of the proposed project route between Milepost (MP) 1 and MP 7 near the Eldorado Substation.
51 Alternative B would bypass a segment of the proposed route that runs north and south near MP 2, in Boulder City,

1 Nevada. Alternative C would bypass the town of Primm, Nevada, and the Ivanpah Dry Lake by rerouting the
2 transmission line north of the Town of Primm. Alternative D and E would reduce impacts to the Ivanpah Dry Lake by
3 rerouting the line south of the Town of Primm, matching the footprint of an existing transmission line.
4

5 Figure 3.2-4 shows the existing visual setting where Alternatives A and B would be located, as described above in
6 Section 3.2.1.2, "Ivanpah and Eldorado Substations." Viewer groups for Alternatives A and B include motorists along
7 Highway 95, dispersed recreationists in the South McCullough Wilderness Area, and residents of Boulder City.
8

9 Figure 3.2-2 shows the existing visual setting where Alternatives C, D, and E would be located, as described above
10 in Section 3.2.1.1, "Transmission Line." Viewer groups for Alternatives C, D, and E include motorists along I-15,
11 recreational users of the Ivanpah Dry Lake, visitors and workers at the casinos in the Town of Primm, residents of the
12 Desert Oasis Apartment Complex located in the Town of Primm, and workers at the Bighorn Electric Generating
13 System.
14

15 3.2.1.5 Telecommunications Route Alternatives

16
17 There are two alternatives to the proposed telecommunications system (Figure 3.2-1). Neither alternative would
18 include the microwave tower component of the proposed telecommunications system; rather, both alternatives would
19 continue underground past Nipton, California, along the northern edge of Nipton Road for approximately 10 miles.
20 The Golf Course Alternative would then proceed northwest on existing 33-kV distribution poles, with a short segment
21 installed in underground ducts under the Primm Valley Golf Course. The Mountain Pass Alternative would continue
22 underground for an additional mile and would then proceed west and northeast on existing 33-kV distribution lines
23 through the town of Mountain Pass and near the existing Mountain Pass Substation. Both telecommunication
24 alternatives would ultimately connect with the proposed Ivanpah Substation.
25

26 Figure 3.2-3 shows the existing visual setting where the Golf Course Alternative and the Mountain Pass Alternative
27 would be located, as described above in Section 3.2.1.2. Viewer groups for the telecommunication alternatives
28 include motorists along Nipton Road, motorists along I-15, workers and golfers at the Primm Valley Golf Club,
29 residents of the town of Mountain Pass, and recreational users of the Ivanpah Dry Lake.
30

31 3.2.1.6 Key Observation Points

32
33 Select KOPs represent typical views of proposed project components and views from sensitive locations. Sensitive
34 locations include areas with protected visual resources or scenic vistas or areas with a high degree of visual
35 sensitivity such as residences or recreational areas. The sensitivity of a location takes into account the type of users,
36 the number of users or frequency of use, public concern for maintaining visual resources, any scenic designations or
37 management plans designed to protect visual resources, and adjacent land uses (BLM Manual H-8410-1). The
38 process for selecting these KOPs is described in more detail in Section 3.2.3.3, "Methodology." These viewpoints are
39 used to help establish the baseline for existing visual resources, and are later used to assess the proposed project's
40 potential to change the visible landscape based on prepared simulations as described in Section 3.2.3.3,
41 "Methodology." KOPs are characterized by describing the form, line, color, and texture of landforms, waterbodies,
42 vegetation, and structures visible in the viewshed. The location of each KOP with respect to the proposed project
43 area is shown in Figure 3.2-1.



Character Photo 3 - View from the Dry Lake west of Highway 95, looking southwest toward the Eldorado Substation

Figure 3.2-4
Character Photo 3

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Character Photo 4 - View from Highway 164 looking northeast toward a portion of the proposed telecommunication system

Figure 3.2-5
Character Photo 4

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Character Photo 5 - View from Highway 164 looking east toward Nipton, California, adjacent to a portion of the proposed telecommunication system

Figure 3.2-6
Character Photo 5

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Character Photo 6 - View of the proposed microwave tower location

Figure 3.2-7
Character Photo 6

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1
2 **KOP 1: View of the Transmission Corridor**

3 KOP 1 (Figure 3.2-8) is a view of the existing Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV
4 transmission line from within the transmission corridor. This view is oriented northeast into the McCullough Mountain
5 Range and is representative of what would be seen from the McCullough Mountain Range. Typical recreational
6 activities in this area include OHV use and hiking. This KOP depicts foreground and middleground views of the
7 existing 115-kV transmission line.

8
9 KOP 1 shows the jagged and rocky terrain of the McCullough Mountain Range. The varying topography of the
10 foreground creates an uneven horizon line that transitions from a nearly horizontal to a vertically inclining line, and
11 then undulates to the eroded base of the mountains visible in the foreground and middleground; the background
12 distance zone is not visible in this view due to topography. Light golden and tan soil, including randomly spaced tan,
13 light brown, and black rock, is visible, giving the foreground a rocky and granular texture. Predominant colors of light
14 golden to golden tan and slate gray with visible striations of warm pink and purple can be seen in the mountains
15 located in the middleground. The land in the middleground has a smooth to granular texture; the mountains have a
16 discontinuous, rough appearance. No water is visible in this view.

17
18 The vegetation within this view consists of irregularly rounded shrubs and ground cover with interspersed grasses,
19 visible in the foreground and middleground. The shrubs and grasses are medium amber, gray-brown, and very light
20 to medium sage green in color, with shrubs having a visually pointed texture and grasses a visually softer texture.
21 Randomly spaced, irregularly shaped Joshua trees are also present in this view. The bristly-textured Joshua trees
22 are an overall light brown and light sage green. The vegetation in this view creates a generally weak horizontal line,
23 appearing dense in the foreground and scattered as the foreground transitions to the middleground.

24
25 The existing Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line is present in this
26 view, as well as other transmission lines not part of the proposed project. The portion of the Eldorado–Baker–
27 Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line visible in this view consists of gray H-frame LSTs
28 and associated conductors. Other overlapping medium gray LSTs and rust brown tubular steel poles (TSPs) are also
29 present in the view.

30
31 **KOP 2: View from the South McCullough Wilderness**

32 KOP 2 (Figure 3.2-9) is a view from west of the South McCullough Wilderness looking northwest towards the
33 Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line route, the I-15, and the Spring
34 Mountain Range. This view is representative of what would be seen from a location near the South McCullough
35 Wilderness. Typical recreational activities in this area include OHV use and hiking, although there are no nearby
36 trailheads or named trails in this area. This KOP depicts middleground views of the existing 115-kV transmission line.

37
38 KOP 2 shows the wide-open Ivanpah Valley and Jean Lake, framed by low mounded hills and low-lying incised
39 mountains. While the foreground and middleground of the view are primarily horizontal, topographic variation is
40 present in the down-sloping foreground and jagged and domed mountains in background views. The smooth,
41 horizontal line of the valley transitions to a jagged horizontal mountain skyline. The exposed soil in the view ranges
42 from golden tan on the valley floor to white-tan on Jean Lake; the hills and mountains range from dark brown to gray-
43 brown, with a purple cast visible in the far mountains. Primarily sandy and rocky land is visible in the foreground,
44 giving the valley floor a visually smooth and indistinctive texture, contrasting with the surrounding mountains and hills.
45 No water is visible in this view.

46
47 Visually bristly, pointy shrubs and ground cover interspersed with soft mounded grasses comprise the typical
48 vegetation visible in this view. The vegetation creates a generally weak horizontal line with colors including tan-
49 brown, yellow-green, dark brown, and dark sage green.

1 The Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line is present in this view,
2 although not distinguishable at this distance, as well as other transmission lines not part of the proposed project. The
3 portion of the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line present consists of
4 gray H-frame LSTs, T-frame LSTs, and associated conductors. Golden tan dirt roads are also visible in this view.
5 These diagonal and horizontal lines cross the wide open space of the Ivanpah Valley floor but do not detract from the
6 openness of the view.

8 **KOP 3: View from Interstate 15 near Jean, Nevada**

9 KOP 3 (Figure 3.2-10) is a view from I-15 looking southeast toward the Union Pacific Railroad (UPRR), the
10 Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line route, Ivanpah Valley, Jean Lake,
11 and the McCullough Mountain Range. This view is representative of what a southbound motorist on I-15 would see.
12 The length of the view would be of short duration, a result of the speed at which a vehicle would generally be
13 traveling. This KOP depicts seldom seen views of the existing 115-kV transmission line.

14
15 KOP 3 shows the expansive view afforded by Ivanpah Valley and Jean Lake with the McCullough Mountain Range in
16 the background. The foreground and middleground of the view is primarily horizontal, with some topographic
17 variation present in the foreground as it slopes toward the middleground. The horizontal line of the middleground
18 inclines diagonally at the base of the dark slate-brown low hills located in the background of the view, transitioning
19 into the jagged horizontal skyline of the McCullough Mountain Range. The exposed soil in the foreground is light
20 golden tan and has a sandy to rocky texture. The middleground colors range from the golden tan of the valley floor to
21 the light tan of the dry lake bed, appearing smooth. The smooth valley floor transitions into the visually varied
22 mountain slopes, which are dark brown; a purple cast is present in the far mountains. No water is visible in this view.

23
24 Vegetation is visible in the foreground of this view; vegetation present in the middleground and background is
25 indistinguishable. Irregularly rounded red-brown, yellow-green, dark brown, and dark sage-green shrubs and ground
26 cover create a generally weak horizontal line in the foreground. These shrubs and ground cover are randomly spaced
27 and have an overall visually bristly, pointed texture.

28
29 Although not distinguishable at this distance, the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV
30 transmission line is present in the background of this view, as are as other transmission lines not part of the proposed
31 project. The portion of the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line present
32 consists of gray H-frame LSTs, T-frame LSTs, and associated conductors. Golden tan dirt roads are present and
33 barely visible in the background of this view. The UPRR, evenly spaced dark brown distribution poles, and a low-lying
34 brown fence are clearly visible in the foreground of this view. These diagonal and horizontal lines cross the wide
35 open space of the Ivanpah Valley floor but do not detract from the openness of the view.

37 **KOP 4: View from Desert Oasis Apartments in Primm, Nevada**

38 | KOP 4 (Figure 3.2-11) is a view from the Desert Oasis Apartment Complex in the Town of Primm. The photograph
39 was taken looking southwest toward the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV
40 transmission line route and the Clark Mountain Range. Views from this location would occur frequently for residents
41 leaving from or returning to their homes. Residents of the Desert Oasis Apartment Complex include employees of the
42 Primm Valley casinos and seasonal residents working on construction projects in the vicinity of Primm, Nevada. This
43 KOP depicts foreground views of the existing 115-kV transmission line.



a) View of the Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking northeast toward the McCullough Mountain Range



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line in the McCullough Mountain Range

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Figure 3.2-8 **KOP 1 – View of the Transmission Corridor**

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a) View from west of the South McCullough Wilderness looking northwest toward the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line from near the South McCullough Wilderness Area

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Figure 3.2-9 **KOP 2 – View from the South McCullough Wilderness Area**

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a) View of the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking southeast from I-15 near Jean, Nevada



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line looking southeast from I-15 near Jean, Nevada

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Figure 3.2-10 **KOP 3 – View from Interstate 15 Near Jean, Nevada**

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a) View of the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking southwest from the Desert Oasis Apartment complex in Primm, Nevada



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line looking southwest from the Desert Oasis Apartment complex in Primm, Nevada

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Figure 3.2-11 **KOP 4 – View from Desert Oasis Apartments in Primm, Nevada**

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1
2 KOP 4 shows the perimeter of the apartment complex in the foreground with the low, weathered Clark Mountain
3 Range visible in the background; the middleground is not visible in this view. The visible land in the foreground
4 creates a primarily horizontal line; the mountain range in the background creates an irregular horizontal skyline with
5 jagged elements. The exposed soil of the landscaping in the foreground ranges from light to medium brown, and the
6 mountain range in the background appears dark brown with shale to purple tint. The visible soil in the foreground has
7 a coarse granular dirt texture, while the mountains appear smoothly weathered with some sharp peaks. No water is
8 visible in this view.

9
10 The vegetation in this view is primarily manicured landscape and only visible in the foreground. There is no native
11 vegetation visible at middleground and background distances due to fencing around the apartment complex. Pointed
12 trees and low bristly shrubs with interspersed palm trees comprise the typical vegetation in this view. An irregularly
13 horizontal line is created by the vegetation, with colors including pine green, yellow-green, and dark green foliage, as
14 well as brown trunks.

15
16 The Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line is visible in the foreground
17 and runs adjacent to the Desert Oasis Apartment complex. The visible portion of the Eldorado–Baker–Coolwater–
18 Dunn Siding–Mountain Pass 115-kV transmission line consists of gray H-frame LSTs, T-framed LSTs, and
19 associated conductors. A low, tan, block wall; paved dark gray roadway; weathered white drainages and red curbing;
20 black light poles; and terracotta apartment buildings are also visible in the foreground.

21 **KOP 5: View from Ivanpah Dry Lake, East of Interstate 15**

22
23 KOP 5 (Figure 3.2-12) is a view from the Ivanpah Lake east of I-15 looking northwest toward the Eldorado–Baker–
24 Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line route, I-15, the Spring Mountain Range, and the
25 | Town of Primm. This view provides a representative image of what a recreational user of the Ivanpah Dry Lake
26 would see. The duration of views for recreational users would be medium to long, depending on the nature of the
27 recreational activity. A recreational user who remains on the dry lake for an entire day or for an extended block of
28 time would have long views of the proposed project. A recreational user who is crossing the dry lake would have a
29 medium length view of the proposed project. Typical recreational activities in this area include racing, archery, kite
30 bugging, and land sailing. This KOP depicts foreground views of the existing 115-kV transmission line.

31
32 | KOP 5 shows the nearly flat Ivanpah Lake with the Town of Primm and the low, weathered hills and mountains in the
33 middleground and background. The foreground of this view is primarily horizontal with topographic variation in the
34 middleground and background. The horizontal dry lake located in the middleground smoothly inclines diagonally over
35 the crest of the hills, transitioning into the jagged horizontal mountain skyline of the Spring Mountain Range. The dry
36 lake has a smooth to slightly coarse texture with striations of light and gold-tan coloring the land. The hills and
37 mountains in the view appear discontinuously rough and smooth. The hills are colored a variation of light tan, dark
38 brown, sandy beige, wine purple, and slate; the mountains are a mottled gray and dark purple. No water is visible in
39 this view.

40
41 A single short, domed, dark green shrub is located in the foreground. Vegetation is visible in background views at the
42 base of the Spring Mountain Range. The vegetation in the middleground views is dark green with undefined edges
43 and texture.

44
45 The Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line is present in this view, as
46 well as other transmission lines not part of the proposed project, including the much more prominent existing
47 transmission line on LSTs in the foreground of the view. The portion of the Eldorado–Baker–Coolwater–Dunn Siding–
48 Mountain Pass 115-kV transmission line present, although not visible at this distance, consists of gray LSTs and
49 associated conductors. The slightly elevated I-15, short cylindrical poles, and buildings and signs associated with the
50 | Town of Primm are also visible in this view; no structures are visible in the background.

1 **KOP 6: View from Interstate 15 near Primm, Nevada**

2 KOP 6 (Figure 3.2-13) is a view from northbound I-15 looking northeast toward the Eldorado–Baker–Coolwater–Dunn
3 | Siding–Mountain Pass 115-kV transmission line route, the town of Primm, the Spring Mountain Range, and the
4 Lucy Gray Mountains. Views of the proposed project for motorists on I-15 would be of a relatively short duration. The
5 posted speed limit on I-15 is 70 miles per hour. For more information about I-15, refer to Section 3.14,
6 “Transportation and Traffic.” This KOP depicts middleground views of the existing 115-kV transmission line.
7

8 KOP 6 shows the nearly flat Ivanpah Valley with the low, domed toe of the Spring Mountain Range located at the
9 edge of the view; the Lucy Gray Mountains are visible in the background. The nearly horizontal Ivanpah Lake, which
10 runs adjacent to I-15, transitions into the irregular horizontal toe of the Spring Mountain Range, then into the
11 weathered rugged skyline of the Lucy Gray Mountains. The exposed land in the view includes the golden tan dry lake
12 with a slightly rough texture, and the golden brown and slate to wine-purple mountains with visual textures ranging
13 from lumpy to pointed. No water is visible in this view.
14

15 Low mounded shrubs and interspersed grasses are visible in the foreground and represent the typical vegetation of
16 this view. The distinct diagonal line of the vegetation parallels I-15. The color of the vegetation ranges from golden
17 tan to a light olive green with an overall bristly and soft texture.
18

19 The Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line is present in this view, as
20 well as other transmission lines not part of the proposed project. The portion of the Eldorado–Baker–Coolwater–Dunn
21 Siding–Mountain Pass 115-kV transmission line present, while not visible, consists of gray LSTs and associated
22 conductors. The flat I-15 and nearly vertical paralleling fence create a diagonal line that bisects the valley floor; nearly
23 vertical road markers are randomly distributed along the interstate. The irregularly shaped and square-shaped
24 | buildings and signs of the town of Primm and a slightly elevated overpass are also visible in this view.
25

26 **KOP 7: View from Highway 95 in the Eldorado Valley**

27 KOP 7 (Figure 3.2-14) is a view from southbound Highway 95 looking southwest toward the Eldorado Valley, the
28 Eldorado Substation, the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line route,
29 and the McCullough Mountain Range. Views of the proposed project for motorists on Highway 95 would be of a
30 relatively short duration. The posted speed limit on Highway 95 is 65 miles per hour. For more information about
31 Highway 95, refer to Section 3.14, “Transportation and Traffic.” This KOP depicts the background to seldom seen
32 views of the existing Eldorado Substation and 115-kV transmission line.
33

34 KOP 7 shows the Eldorado Valley with the McCullough Mountain Range visible in the background. The valley floor is
35 flat with some topographic variation, sloping downhill from the foreground to the middleground. The valley floor
36 transitions into intermittently smooth and rough alluvial fans at the base of the mountain range, then into an
37 irregularly weathered form. The nearly horizontal line of the foreground and middleground diagonally inclines at the
38 alluvial fans, becoming an irregularly horizontal skyline with rugged peaks. The exposed soil in the view ranges from
39 light to golden tan to ash brown on the valley floor; the fans and mountains range from warm pink, dark golden
40 brown, gray-brown, and sage green. Primarily sandy and gravelly land is visible in the foreground, appearing smooth
41 on the valley floor, roughening at the fans and mountains. No water is visible in this view.



a) View of the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking northeast from Ivanpah Dry Lake



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line looking northeast from Ivanpah Dry Lake

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Figure 3.2-12 **KOP 5 – View from Ivanpah Dry Lake, East of Interstate 15**

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a) View of the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking northeast toward Primm, Nevada



b) Simulated view of the proposed Eldorado-Ivanpah 230-kV transmission line looking northeast toward Primm, Nevada

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Figure 3.2-13 **KOP 6 – View from Interstate 15 near Primm, Nevada**

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a) View of the existing Eldorado Substation and Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line looking west from Highway 95



b) Simulated view of the upgraded Eldorado Substation and the proposed Eldorado-Ivanpah 230-kV transmission line looking west from Highway 95

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Figure 3.2-14 **KOP 7 – View from Highway 95 in the Eldorado Valley**

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1
2 Vegetation in this view consists of low, rounded, scraggly, sharp shrubs, which create a generally horizontal line; the
3 vegetation in the middleground and background is not distinguishable from this KOP. The color of the vegetation
4 ranges from tan, light green, and dark red-brown in the foreground to dusty greens and browns in the middleground.

5
6 In addition to the Eldorado Substation and the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV
7 transmission line, other transmission lines not part of the proposed project are present in this view. The portion of the
8 Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line present, while not visible at this
9 distance, consists of gray LSTs and associated conductors. A gray and green fence is visible in the foreground and
10 creates a generally horizontal line with short vertical fence posts. A flat, blue reflective solar facility and two
11 substations are located on the valley floor, creating complex horizontal and vertical lines associated with the solar
12 panels, support buildings, and poles.

13 14 **KOP 8: View from the Highway 164 Overpass in the Ivanpah Valley**

15 KOP 8 (Figure 3.2-15) is a view from the I-15/Highway 164 Overpass looking northwest toward the proposed Ivanpah
16 Substation, Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line route, the Ivanpah
17 Valley, the Ivanpah Lake, the Clark Mountain Range, the Spring Mountain Range, and the Lucy Gray Mountains.
18 This photograph provides an elevated and, subsequently, broader view of what a motorist on northbound I-15 would
19 see. Views of the proposed project for motorists on I-15 would be of a relatively short duration. The posted speed
20 limit on I-15 is 70 miles per hour. For more information about I-15, refer to Section 3.14, “Transportation and Traffic.”
21 This KOP depicts the background to seldom seen views of the proposed Ivanpah Substation location and the existing
22 115-kV transmission line.

23
24 KOP 8 is a view of the Ivanpah Valley with the Clark Mountain Range, the Spring Mountain Range, and the Lucy
25 Gray Mountains visible in the background. The valley floor is typically flat, sloping downhill from foreground to
26 middleground with a low, diagonally sloping hill located west of I-15. Ivanpah Lake and the valley floor create a
27 generally horizontal line with topographic variations at the isolated, low, conical hills and at the irregularly weathered
28 mountains in the background. The exposed soil in the valley is predominantly golden tan, while Ivanpah Lake is a
29 light tan. The hills and mountains range in color, from light tan to dark golden brown to mottled brown; the Lucy Gray
30 Mountains have a warm pink cast. The gravelly texture of the foreground transitions into the generally smooth valley
31 floor, which transitions into the intermittently rough- and smooth-textured mountains. No water is visible in this view.

32
33 The typical vegetation visible in the view consists of low, mounded, randomly spaced shrubs, which create a weak
34 horizontal line. The color of the vegetation in this view ranges from sage green to red-brown with an overall rough,
35 bristly texture that transitions into a smooth, velvety texture on the valley floor.

36
37 The Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line, although not distinguishable
38 at this distance, is present in this view, as well as other transmission lines not part of the proposed project. The
39 portion of the Eldorado–Baker–Coolwater–Dunn Siding–Mountain Pass 115-kV transmission line present consists of
40 gray LSTs and associated conductors. I-15 and associated dividers and signs are visible in this view, as well as dirt
41 roads and buildings associated with a former roadside service and the town of Primm. The grays, black, whites and
42 yellows of I-15 create a strong diagonal line curving north, transitioning to a vertical line sloping downhill from
43 foreground to background. The tan dirt roads create diagonal lines crossing the valley floor, and the muted gray
44 buildings associated with a former roadside service and the town of Primm appear angular and block-like in the
45 background.

46 47 **3.2.2 Applicable Laws, Regulations, and Standards**

48
49 The following section provides a summary of federal, state, and local laws, regulations, and standards that govern
50 visual resources in the proposed project area.

1 **3.2.2.1 Federal**

2
3 **Federal Land Policy and Management Act**

4 The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743; 43 United States Code 1601, et
5 seq.) established the BLM as the jurisdictional agency for expanses of land in the West to be managed as multiuse
6 lands. The following sections of the FLPMA relate to the management of aesthetic and visual resources on federal
7 lands:

8
9 § 102(a): “The public lands [shall] be managed in a manner that will protect the quality of scientific, scenic,
10 historical, ecological, environmental, air and atmospheric, water resource, and archeological values.”

11 § 201(a): “The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and
12 their resources and other values (including...scenic values).”

13 § 505(a): “Each right-of-way shall contain terms and conditions which will...(ii) minimize damage to the scenic
14 and esthetic values.”

15
16 Federal regulations regarding aesthetics and visual resources are enacted through the application of the Visual
17 Resource Management (VRM) system outlined in the BLM 8400 VRM Manual. The VRM system involves
18 inventorying scenic values and establishing management classes and objectives for those values, and then
19 evaluating proposed activities to determine whether they conform to the management objectives. VRM classes may
20 be established in Resource Management Plans (RMPs). In the absence of VRM classes in an adopted RMP, BLM
21 resource specialists may complete a Visual Resource Inventory (VRI) for the affected area. The California Desert
22 Conservation Area Plan does not have established VRM classes for the proposed project area within California. The
23 Las Vegas RMP has established VRM classes for the proposed project area within Nevada. Because the classes are
24 established differently for Nevada and California, there may be different ratings for adjacent lands at the California–
25 Nevada border. The VRM and VRI classes described below are shown on Figure 3.2-1.

26
27 **California Desert Conservation Area Plan**

28 The proposed Ivanpah Substation, a portion of the transmission route, and a portion of the telecommunications route
29 would be located on BLM land managed according to the California Desert Conservation Area (CDCA) Plan (BLM
30 1980). The CDCA Plan does not include VRM classifications, nor does it directly address scenic values in the
31 jurisdictional area; however, the BLM developed VRI classes for the ISEGS project, which are consistent with the
32 CDCA Plan. The proposed project would be located entirely within a VRI Class III area (BLM and CEC 2009). The
33 management objectives associated with VRI classes are discussed below in Section 3.2.3.3, “Methodology.”

34
35 **Northern and Eastern Mojave Plan Amendment**

36 The Northern and Eastern Mojave (NEMO) Plan Amendment (BLM 2002) updated the CDCA Plan for lands crossed
37 by the proposed project. The plan did not establish VRM classes. The NEMO plan addressed visual resource
38 impacts to users of historic trails in the plan area. The Old Spanish Historic Trail crosses land managed according to
39 the NEMO Plan Amendment, but the trail would not be crossed by the proposed transmission or telecommunications
40 routes, including alternatives, and no proposed project components would be located within the vicinity of the Old
41 Spanish Historic Trail.



a) View of the proposed Ivanpah Substation location looking northwest from the Highway 164/Interstate 15 overpass



Simulated view of the proposed Ivanpah Substation location looking northwest from the Highway 164/Interstate 15 overpass looking west from Highway 95

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Figure 3.2-15 **KOP 8 – View from the Highway 164 Overpass in the Ivanpah Valley**

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1
2 **Las Vegas Resource Management Plan**

3 Within Nevada, a portion of the proposed project would be located on land managed according to the Las Vegas
4 RMP (BLM 1998). The BLM Southern Nevada District Office manages land under its jurisdiction according to the
5 goals and policies outlined in the Las Vegas RMP, which contains the following objective regarding the management
6 of visual resources:

- 7
8 • VS-1. Limit future impacts on the visual and aesthetic character of the public lands.
9

10 The proposed transmission line would cross VRM Class II and VRM Class III land as designated by the Las Vegas
11 RMP. The proposed telecommunications line would cross VRM Class II land. The management objectives
12 associated with VRM classes are discussed below in Section 3.2.3.3, “Methodology.”
13

14 **National Historic Preservation Act**

15 The National Historic Preservation Act (NHPA) includes language protecting the visual integrity of sites listed or
16 eligible for the National Register of Historic Places: “Examples of adverse effects...include...introduction of visual,
17 atmospheric, or audible elements that diminish the integrity of the property’s significant historic features...” (36 Code
18 of Federal Regulations Part 800.5). Impacts to visual resources protected by the NHPA are discussed in Section 3.5,
19 “Cultural Resources.”
20

21 **3.2.2.2 State**

22 **California Department of Transportation**

23
24 The California State Department of Transportation (Caltrans) administers the State Scenic Highway Program to
25 preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent
26 to highways (California Streets and Highways Code § 260, et seq.). The State Scenic Highway System includes a list
27 of highways that are either eligible for designation as scenic highways or have been so designated. These highways
28 are identified in the Streets and Highways Code § 263. The program entails regulation of land use and density of
29 development, attention to the design of sites and structures, attention to and control of signage, landscaping, and
30 grading, and other restrictions. The local jurisdiction is responsible for adopting and implementing such regulations. If
31 a highway is listed as eligible for official designation, it is also part of the Scenic Highway System and care must be
32 taken to preserve its eligibility status. There are no designated or eligible State Scenic Highways within the vicinity of
33 EITP.
34

35 **Nevada Department of Transportation**

36 The Nevada Department of Transportation (NDOT) developed the I-15 Landscape and Aesthetics Corridor Plan
37 (NDOT 2005) as required by the NDOT Master Plan. The I-15 Landscape and Aesthetics Corridor Plan does not
38 contain any rules, regulations, or policies regarding projects built within view of the I-15 corridor. However, in outlining
39 planned landscape and aesthetic improvement projects for the corridor, the I-15 Landscape and Aesthetics Corridor
40 Plan does establish scenic zones along the highway. The proposed project would parallel the portion of I-15
41 classified as the “Gateway to Nevada’s Excitement” Design Segment. Design Objectives for the portion of I-15
42 paralleled by the proposed project are classified as Statewide Gateway (near Primm, Nevada) and Preserved Desert
43 Landscape Character (from Roach, Nevada, to Jean, Nevada). Design objectives for these segments of I-15
44 applicable to the proposed project include the following:
45

- 46 • Preserved Desert Landscape Character
47 – 2. Preserve scenic views of mountain ranges in the distance, middleground of the Mojave Desert, and
48 lake beds in the foreground.

- 1 • Managed Desert Landscape Character
- 2 – 1. Plan for a future design context that will integrate expected growth, major facilities, and development
- 3 within this segment.
- 4 – 2. Maintain the desert character in conjunction with new urbanization and growth.
- 5

6 There are no designated or eligible Scenic Highways within view of the proposed project in Nevada (NDOT 2009).

7 8 **3.2.2.3 Regional and Local**

9 10 **San Bernardino County, California**

11 The Conservation and Open Space Elements of the San Bernardino County General Plan include the following
12 goals, objectives, and programs relating to aesthetic and visual resources (San Bernardino County 2005 and 2006):

- 13
- 14 • Goal D/CO 1. Preserve the unique environmental features and natural resources of the Desert Region,
15 including native wildlife, vegetation, water, and scenic vistas.
- 16 • Policy D/CO 1.2. Require future land development practices to be compatible with the existing topography
17 and scenic vistas and protect the natural environment.
- 18 • Policy D/CO 3.2. All outdoor lighting including street lighting shall be provided in accordance with the Night
19 Sky Protection Ordinance and shall only be provided as necessary to meet certification standards.
- 20 • Goal OS5. The County will maintain and enhance the visual character of scenic routes in the County.
- 21 • Policy OS 5.1. Features meeting the following criteria will be considered for designation as scenic
22 resources: a.) A roadway, vista point, or area that provides a vista of undisturbed natural areas, b.) Includes
23 a unique or unusual feature that comprises an important or dominant portion of the viewshed (the area
24 within the field of view of the observer), c.) Offers a distant vista that provides relief from less attractive
25 views of nearby features (such as views of mountain backdrops from urban areas).
- 26 • Policy OS 5.2. Define the scenic corridor on either side of the designated route, measured from the outside
27 edge of the ROW, trail, or path. Development along scenic corridors will be required to demonstrate through
28 visual analysis that proposed improvements are compatible with the scenic qualities present.
- 29 • Policy OS 5.3. The County desires to retain the scenic character of visually important roadways throughout
30 the County. A “scenic route” is a roadway that has scenic vistas and other scenic and aesthetic qualities that
31 over time have been found to add beauty to the County. Therefore, the County designates the following
32 route as a scenic highway and applies all applicable policies to development on this route.
 - 33 – I-15 from the junction with Interstate 215 northeast to the Nevada state line, excepting those areas
34 within the Barstow Planning Area and the community of Baker where there is commercial/industrial
35 development, those portions within the Yermo area from Ghost Town Road to the East Yermo Road
36 overcrossing on the south side only, and from First Street to East Yermo Road overcrossing on the
37 north side and all incorporated areas.
- 38 • Night Sky Protection Ordinance (Ord. 3900). This ordinance provides that “Commercial and industrial
39 outdoor lighting must be fully shielded so that no light is emitted above the horizontal plane...do not direct
40 light or light trespass onto adjacent property...or to any member of the public who may be traveling on
41 adjacent roadways.”

Clark County, Nevada

The Clark County Comprehensive Plan includes the following policies related to the siting and design of public utilities to minimize impacts to aesthetic and visual resources (Clark County 2006):

- UT 1-4. Support increasing capacity of existing utility corridors over establishing new ones.
- UT 1-8. Support the reduction of visual impacts by newly constructed utility poles, towers, substations, and equipment buildings. Use methods for reducing the effect through actions such as:
 - Disguising and co-locating antennas for cell towers
 - Hiding equipment buildings with screening and solid fencing
 - Using architecture design on major utility poles to complement the character of a community
 - Placing high capacity electrical transmission lines underground to lessen visual impacts in large multi-use projects

Boulder City, Nevada

The Boulder City Master Plan includes the following policy related to visual impacts within the Eldorado Valley region (Boulder City 2003):

EV 3: Views. The visual impacts of future development in the Eldorado Valley should be a strong consideration when reviewing future proposals for energy production facilities or other uses. Future development should be designed so as to minimize negative impacts to views of the Eldorado Valley from the urbanized areas of the city.

3.2.3 Impact Analysis

This section defines the methodology used to evaluate impacts for visual resources, including CEQA impact criteria. The definitions are followed by an analysis of each alternative, including a joint CEQA/NEPA analysis of impacts. At the conclusion of the discussion is a NEPA impact summary statement and CEQA impact determinations. This section also lists the Applicant Proposed Measures (APMs) designed to minimize impacts to visual resources in Section 3.2.3.4, "Applicant Proposed Measures." For mitigation measures, refer to Section 3.2.4.

3.2.3.1 NEPA Impact Criteria

The NEPA analysis determines whether direct or indirect effects to visual resources would result from the proposed project, and explains the significance of those effects in the proposed project area (40 CFR 1502.16). Significance is defined by Council on Environmental Quality regulations and requires consideration of the context and intensity of the change that would be introduced by the project (40 CFR 1508.27). Impacts are discussed in proportion to their significance (40 CFR 1502.2[b]). To facilitate the comparison of alternatives, the significance of environmental changes is described in terms of temporal scale, spatial extent, and intensity.

The following criteria were considered in determining whether a visual impact would be adverse. The BLM VRM methodology was used as the primary indication of potential impact significance. If impacts meet the VRM class objectives of a given KOP in Nevada or are consistent with the VRI objectives in California, the impact is considered minor or negligible. If the impact does not meet the applicable VRM or VRI class objectives of a given KOP, the impact is considered major. The analysis considers the level of visual contrast that would be introduced at KOPs, focusing on contrast in form, line, color, and texture and the introduction of new sources of light or glare.

3.2.3.2 CEQA Impact Criteria

Under CEQA, the proposed project would have a significant impact if it would:

- a. have a substantial adverse effect on a scenic vista;
- b. substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c. substantially degrade the existing visual character or quality of the site and its surroundings; or
- d. create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.2.3.3 Methodology

The proposed project would be located primarily on BLM land; therefore, the methodology used to determine impacts on visual resources is consistent with the BLM's guidelines for selecting KOPs, describing the views from these locations, determining the degree to which views would be impacted, and assessing the proposed project's compliance with applicable VRM or VRI objectives. The assessment of the proposed project's impacts is based on an evaluation of the changes to the existing visual environment that would result from construction, operation, and, maintenance of the proposed project.

KOPs were selected in accordance with BLM VRM Manual 8431 and include critical viewpoints such as those from residential communities or road crossings, representative views of typical landscapes in the proposed project area, and any special project or landscape feature, such as the proposed substation location or a dry lake bed. The KOP selection process considered the number of viewers, the duration of the view, and viewer expectation.

Viewer expectation and the sensitivity of viewpoints were also considered in selecting the KOPs as outlined in the BLM Visual Resources Inventory Manual 8410-1. Factors considered in determining the sensitivity of a viewpoint and viewer expectation include the types of users in the area, the amount of use for each location, any public interest, adjacent land uses, and areas with special designations such as Wilderness Areas or Recreation Areas.

KOPs were agreed upon by the applicant's consultants, CPUC consultant, and BLM staff from both the Needles and Las Vegas field offices. The consulting team met with BLM staff from both field offices to conduct field work and identify potential KOPs. Coordination with agency staff continued after completion of the visual field work to discuss potential project issues and finalize the selection of KOPs for the proposed project.

Field surveys in San Bernardino County, California, and Clark County, Nevada, were conducted on October 16, 2008, to select potential KOPs in consultation with the BLM. Additional field surveys were conducted in Clark County, Nevada, on November 13 and 14, 2008, to select potential KOPs in consultation with the BLM. During the field visits and in subsequent consultation, BLM staff indicated that:

- BLM land in California that would be crossed by proposed project components is managed as VRI Class III; and
- BLM land in Nevada that would be crossed by proposed project components is designate VRM Class III and VRM Class II.

KOP photos were taken with a 35mm camera and fixed 50mm lens, with a resulting horizontal field of view of approximately 40 degrees. A single-frame image was used for each KOP. If viewed as a 10-inch wide image at a distance of about 1 foot, this field of view approximates the actual field of view experienced.

1 In accordance with BLM guidelines, simulations were prepared to assess the degree of visual contrast that would be
2 introduced by the proposed project. The photographs taken from each of the KOPs were used as the basis for the
3 simulations. For each view, computer modeling and rendering techniques were used to produce the simulated
4 images. Existing topographic and site data provided the basis for developing an initial digital model. Project
5 engineers provided three-dimensional (3-D) digital models of the transmission and substation structures. These
6 models were then combined with the digital site model to produce a complete computer model of the proposed
7 project.
8

9 For each simulation viewpoint, a viewer location was digitized from topographic maps and scaled aerial photographs,
10 using 5 feet as the assumed viewer eye level. Computer wire frame perspective plots were then overlaid on the
11 photographs of the views from the simulation viewpoints to verify scale and viewpoint location. Digital visual
12 simulation images were produced as a next step based on computer renderings of the 3-D model combined with
13 high-resolution digital versions of base photographs. The final hardcopy visual simulation images that appear in this
14 document were produced from the digital image files using a color printer.
15

16 Comparison of the “before” photographs with the simulations of the proposed project as it would appear after
17 construction provided the basis for determining the potential impacts on views and visual quality. These simulations
18 do not include any landscaping plans as landscaping had not been finalized at the time the simulations were
19 prepared. Additionally, all simulations depict the proposed project as it would appear when constructed and do not
20 depict the proposed project during construction. Therefore, these simulations depict the proposed project as it would
21 appear immediately after construction and before any landscaping were to be installed.
22

23 The impact analysis assessed the contrast between the existing conditions and conditions that would exist after
24 construction of the proposed project for basic visual features (landforms, water bodies, vegetation, and structures)
25 using four basic design elements (form, line, color, and texture). Views and features of the proposed project are
26 described in terms of distance zones. These are foreground (0 to 1 mile), middleground (1 to 3 miles), background (3
27 to 5 miles), and seldom-seen views (greater than 5 miles).
28

29 The degree of contrast that would be introduced by the proposed project at each KOP is then assigned a BLM rating
30 which reflects the degree of contrast of visual changes against the objectives of the applicable VRM class or VRI
31 rating that the KOP is located within. These ratings are as follows:
32

- 33 • Strong: the element contrast demands attention, will not be overlooked, and is dominant in the landscape
- 34 • Moderate: The element contrast begins to attract attention and begins to dominate the characteristic
35 landscape.
- 36 • Weak: the element contrast can be seen but does not attract attention.
- 37 • None: the element contrast is not visible or perceived.

38 BLM classifies the visual resources of an area by assigning them to one of four inventory classes using a standard
39 visual resource inventory process. Each of the four classifications corresponds to management goals as follows:
40

- 41 • Objective Class I: The objective of this class is to preserve the existing character of the landscape. This
42 class provides for natural ecological changes; however, it does not preclude very limited management
43 activity. The level of change to the characteristic landscape should be very low and must not attract
44 attention.
- 45 • Objective Class II: The objective of this class is to retain the existing character of the landscape. The level of
46 change to the characteristic landscape should be low. Management activities may be seen but should not
47 attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color,
48 and texture found in the predominant natural features of the characteristic landscape.

- Objective Class III: The objective of this class is to partially retain the existing character of the landscape. The level of change to characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- Objective Class IV: The objective of this class is to provide for management activities that allow major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

As directed in the BLM Visual Contrast Rating Manual 8431, a number of variables are considered in determining the significance of a potential impact to aesthetics and visual resources for each KOP. A weak visual change can constitute a major visual impact if the change is perceptible in foreground views to a highly sensitive viewer group such as recreational viewers in a VRM Class I area. The factors considered in determining the extent and implications of the visual changes are as follows:

- The specific changes in the affected environment's composition and character and any outstanding valued qualities,
- The context of the affected visual environment,
- The extent to which the affected environment contains places or features that have been designated in plans and policies for protection or special consideration, and
- The numbers of viewers, their activities, and the extent to which the activities are related to the visual qualities affected by proposed changes.

3.2.3.4 Applicant Proposed Measures

The applicant has included the following APMs related to visual resources:

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.

1 APM AES-8: **Substation Lighting Control.** The substation lighting would be designed to be manually operated
2 only when required for non-routine nighttime work. The lighting would be directed downward and shielded to
3 eliminate offsite light spill at times when the lighting might be in use.
4

5 **3.2.3.5 Proposed Project / Proposed Action**

6 **Construction**

7
8 Visual impacts associated with construction of the proposed project would result from the following:
9

- 10 • The removal of existing vegetation and the exposure of bare soils within construction workspaces;
- 11 • Grading and vegetation removal to improve access and spur roads;
- 12 • Exposure of bare soils where pits would be dug for tower installation;
- 13 • Removal of vegetation and grading for the proposed Ivanpah Substation and microwave tower;
- 14 • Trenching along Nipton Road where the telecommunications line would be installed underground; and
- 15 • Storage of materials and equipment.

16
17 Construction impacts would be greatest in areas with the greatest amount of land disturbance, such as laydown or
18 staging areas and areas where substantial trenching would be required. Construction yards would be located at the
19 Eldorado Substation, which is visible in KOP 7 (Figure 3.2-14); in Jean, Nevada; at an existing generating station
20 yard in Nevada; at a Primm Valley Casino vacant lot in Primm, Nevada; at a vacant lot at the Whiskey Pete's Casino
21 in Primm, Nevada; at the proposed BrightSource generating station yard, which would be visible in KOP 8 (Figure
22 3.2-15); and in the town of Nipton, California.
23

24 However, construction impacts would be temporary because the land would be restored to its original condition (APM
25 AES-4). Construction would occur over an approximately 19 month period, although construction in any one location
26 would be of a shorter duration. The visual impact from activities, such as grading and the removal of vegetation, may
27 occur for up to three years after the construction period, depending upon the success of revegetation efforts.
28 Additionally, MM BIO-2 requires the applicant to develop a Reclamation, Restoration, and Revegetation Plan (RRRP)
29 prior to adoption of the Final EIR/EIS that will guide restoration and revegetation activities for all disturbed lands
30 associated with construction of the project and the eventual termination and decommissioning of the project. MM
31 BIO-2 is discussed in further detail in Section 3.4: 'Biological Resources.'
32

33 Construction impacts would be greatest for areas with high degrees of viewer sensitivity, such as residential areas,
34 recreational areas, and areas with unique visual features. These include viewers at KOP 1, KOP 2, KOP 4, and KOP
35 5 (Figures 3.2-8, 3.2-9, 3.2-11, and 3.2-12). Construction in these areas would temporarily disrupt viewsheds,
36 creating visual contrast by introducing construction equipment and as a result of construction-related activities.
37

38 **Operation & Maintenance**

39 This section summarizes the visual impacts that would occur during operation and maintenance of the proposed
40 project.
41

42 The proposed double-circuit 230-kV transmission line would replace an existing single-circuit 115-kV subtransmission
43 line. The proposed transmission line would be strung on 216 LSTs that range in height from 110 to 180 feet and 42
44 single-circuit H-Frame towers that range in height from 45 to 75 feet. The proposed LSTs are depicted in the
45 simulation for KOP 4 (Figure 3.2-11), and the single circuit H-frame structures are depicted in the simulation for KOP
46 1 (Figure 3.2-8). The existing single-circuit 115-kV subtransmission line is strung on H-Frame towers that are
47 approximately 70-feet tall. Replacing existing towers with larger, taller towers would incrementally contribute to visual
48 impacts, but would not create a new source of contrast in an otherwise undeveloped landscape. However, given the

1 increased structure size, there would be a minor, long-term adverse effect on visual resources. As discussed in
2 Chapter 3.9, “Land Use,” the transmission line route is primarily within established BLM energy corridors and would
3 follow the existing 115-kV transmission ROW with the exception of six minor deviations.
4

5 Longer-term visual impacts would also result from removing or altering vegetation that may currently provide a visual
6 barrier, or from changing landforms in a way that introduced contrasts in visual scale, special characteristics, form,
7 line, color, or texture. The proposed Ivanpah Substation and microwave tower would affect visual resources by
8 introducing a new, angular form into an undeveloped area, disrupting the lines and spatial proportions of views. The
9 proposed Ivanpah Substation is depicted in the simulation for KOP 8 (Figure 3.2-15). The facility colors would
10 contrast with natural palettes, and the structures would disrupt lines and uniform textures in the landscape.
11 Permanent impacts on visual resources would be more intense for areas with higher degrees of viewer sensitivity,
12 including residences, recreation areas such as the Ivanpah Dry Lake, Wilderness Areas, and the MNP.
13

14 The visual impact of the proposed project is discussed in more detail with regard to each KOP in the next section.
15 Contrast ratings prepared for each KOP are included in Appendix C.
16

17 **Impacts by Key Observation Point**

18 Simulations of the proposed project facilities for each KOP, figures 3.2-8 through 3.2-15, are provided below. The
19 simulations are compared against KOP photographs depicting the existing setting to assess the level of contrast that
20 would be introduced by the proposed project. Contrast is described in terms of changes to the form, line, color, and
21 texture or landforms, water bodies, vegetation, and structures present in the view. Contrast is also described in terms
22 of duration. Short-term changes would be present during construction. Long-term changes would be present for the
23 life of the proposed project. The analysis then considers whether the level of contrast meets the visual resource
24 objectives of the applicable VRM Class or VRI rating.
25

26 Appendix C contains the visual contrast rating worksheets (Form 8400-4) from the BLM Visual Resource Inventory
27 Handbook H-8410-1.
28

29 **KOP 1: View of the Transmission Corridor**

30 KOP 1 (Figure 3.2-8) is located within a BLM VRM Class III area, with views of VRM Class III and VRM Class II
31 areas in the foreground and middleground. The sensitivity of this viewpoint is considered moderate: while visual
32 resources are of high concern to recreational users of the South McCullough Wilderness Area, and the maintenance
33 of those values is important, overall use of the area is low, and adjacent land uses include other transmission lines.
34 The proposed project would be visible in the foreground and middleground distance zone. The contrast rating
35 worksheet for this KOP is located in Appendix C.
36

37 Construction of the proposed transmission line would be visible in KOP 1. Construction would result in short-term and
38 long-term changes to the foreground and middleground of the existing environment of this view. Large equipment,
39 delivery trucks, and construction equipment would be present during construction, and the movement and storage of
40 such vehicles would be visible. Transmission towers would become visible as they are erected throughout the
41 construction period. Construction of new access roads, decommissioning of existing H-frame LST and T-frame LST
42 transmission towers, installation of the telecommunications line, and preparation of the transmission line tower
43 structure sites would result in temporary generation of fugitive dust and temporary clearing of vegetation that would
44 be visible from KOP 1. To lessen the visual impacts associated with the clearing of vegetation and rock cutting
45 required to improve existing access roads or construct new access roads, the applicant would consult with the BLM
46 to determine feasible methods to weather exposed rock (APM AES-1) and would blend the roads back into the
47 overall landscape by seeding and/or inter-planting (APM AES-2).
48

49 Operation of the proposed project would result in long-term changes to the foreground and middleground of the
50 existing environment of KOP 1. This KOP depicts a location where the proposed route would diverge from the

1 existing ROW due to a transmission line crossing. Long-term visible changes would result from the addition of H-
2 frame TSP structures, LSTs, the telecommunications line, and associated conductors in the foreground, and LSTs in
3 the middleground. H-frame TSPs are used at this point along the proposed transmission line to allow the proposed
4 line to cross under the remaining existing transmission line visible in the foreground and middleground in this view.
5 The H-frame TSPs, LSTs, telecommunication line, and associated conductors would be visible in the foreground in
6 this view; LSTs would be less distinguishable in the middleground in this view. Denser H-frame TSPs and larger
7 LSTs would replace the existing H-frame and T-frame transmission line in this view, creating a strong change to the
8 line of the structures in the foreground and a strong change to the line of the structures in the middleground. Areas
9 permanently cleared of vegetation for access roads and transmission line towers would be visible in the foreground of
10 KOP 1. As outlined in APM AES-1 and APM AES-2, cleared areas in the South McCullough Mountains would be
11 reseeded and interplanted and disturbed rock would be stained to lessen visual contrast.

12
13 Development of the proposed transmission line in the view from KOP 1, including construction and operation, would
14 result in a weak change to the form, line, color, and texture of the landform and vegetation. With the reseeded,
15 interplanting, and rock staining outlined in APM AES-1 and APM AES-2, changes to the form, line, color and texture
16 of landforms visible in this view would be weak for both foreground and middleground views. Construction, operation,
17 and decommissioning of the proposed transmission line in this view would result in a moderate change in the form,
18 ~~line~~, color, and texture for structures present in the foreground of the existing environment, and a moderate change to
19 the form, ~~line~~, color, and texture for structures present in the middleground of the existing environment. Changes to
20 the line of structures in both foreground and middleground views would be strong.

21
22 Although the proposed transmission line would represent a strong contrast, it would not dominate the view of the
23 casual observer given the existing hard lines of the transmission towers and lines currently located in this area. The
24 changes to the existing environment would be consistent with the VRM Class III assigned to the foreground but
25 would not be consistent with the VRM Class II designation in middleground views. Therefore, development of the
26 proposed transmission line would result in a major, adverse, and unavoidable effect at KOP 1.

27 28 **KOP 2: View from South McCullough Wilderness**

29 KOP 2 (Figure 3.2-9) is located within and includes views of a BLM VRM Class III area, although the South
30 McCullough Wilderness Area immediately east of the photo location is managed as VRM Class II. The sensitivity of
31 this viewpoint is moderate: while visual resources are a high concern for recreational users of the South McCullough
32 Wilderness Area and the maintenance of those values is important, the overall use of the area is low and adjacent
33 land uses include other transmission lines. This viewpoint is approximately 3 miles from the proposed transmission
34 line route, so the proposed project would be visible in background views. The contrast rating worksheet for this KOP
35 is located in Appendix C.

36
37 Construction would result in short-term and long term changes to the middleground of the existing environment.
38 Large equipment, delivery trucks, and construction equipment would be present during construction, and movement
39 of such vehicles could be visible. Transmission towers would become increasingly evident as they were erected
40 throughout the construction period. Construction of new access roads, decommissioning of existing transmission
41 towers, installation of the telecommunications line, and preparation of the transmission line tower structure sites
42 would result in temporary generation of fugitive dust and temporary clearing of vegetation that could be visible in
43 KOP 2 under certain conditions. To lessen the visual impacts associated with the clearing of vegetation and rock
44 cutting required to improve existing access roads or construct new access roads, the applicant would consult with the
45 BLM to determine feasible methods to weather exposed rock (APM AES-1) and would blend the roads back into the
46 overall landscape by seeding and/or inter-planting (APM AES-2).

47
48 Operation of the proposed project would result in minor long-term changes to the middleground of the existing
49 environment. Long-term changes would result from the addition of LSTs, the telecommunications line, and
50 associated conductors. These elements of the proposed project would barely be visible to not visible under certain
51 conditions, such as haze, dust storms, or at night due to the 3-mile distance between the viewpoint and the proposed

1 transmission route. During normal conditions, these elements would result in weak changes to the existing
2 environment due to the distance. LSTs would replace the existing H-frame LST and T-frame LST transmission line,
3 resulting in a weak change to the line of the structures visible in the view. Areas permanently cleared of vegetation
4 for access roads and transmission line towers would also barely be visible to not visible in KOP 2.

5
6 Development of the proposed transmission line in this view, including construction and operation, would result in a
7 minor change in the form, line, color, and texture of the land form, vegetation, and structures present in the existing
8 environment. The changes to the existing environment would be consistent with the VRM Class III assigned to these
9 BLM-managed lands because all changes to landform, vegetation, and structures visible from this vantage point
10 would be weak. Therefore, development of the proposed transmission line would result in a minor adverse effect at
11 KOP 2, and mitigation would not be required.

12 13 **KOP 3: View from Interstate 15 near Jean, Nevada**

14 KOP 3 (Figure 3.2-10) includes views of a BLM VRM Class III area. KOP 3 is located approximately 6.5 miles from
15 the proposed transmission line route. The sensitivity of this viewpoint is moderate to low: there is a high level of use,
16 but visual resources are a low concern for most users and a low priority for public concern. The sensitivity of this
17 viewpoint is considered low because most viewers would be travelers on I-15. Travelers that typically use this
18 roadway are primarily concerned with reaching a destination as opposed to driving specifically for recreation or
19 sightseeing, and the posted speed limit is 70 miles per hour. Additionally, there is no scenic highway designation for
20 this roadway. This viewpoint is located approximately 6.5 miles from the proposed transmission line route, so the
21 proposed project would be visible in background views. The contrast rating worksheet for this KOP is located in
22 Appendix C.

23
24 Construction would result in short-term changes to the background of the existing environment similar to those
25 described for KOP 2, but these changes would not be visible to motorists along I-15 due to the distance.

26
27 Operation of the proposed project would result in long-term changes to the background of the existing environment of
28 KOP 3 similar to those described for KOP 2. Due to the approximately 6.5-mile distance between this viewpoint and
29 the proposed transmission route, changes to structures in the background would not be visible in this view.

30
31 Development of the proposed transmission line in this view, including construction and operation, would not result in
32 any visible change in the form, line, color, and texture of the land, water body, vegetation, or structures present in the
33 existing environment due to the fact that changes would be present only in seldom seen views and the viewer would
34 likely be traveling at a high speed. Additionally, the proposed project would follow the existing route and would repeat
35 the pattern created by the existing 115-kV transmission line that is currently present in this view. The changes to the
36 existing environment would be consistent with the VRM Class III assigned to these BLM-managed lands because all
37 changes to landform, vegetation, and structures would be not visible from this viewpoint. Therefore, development of
38 the proposed transmission line would result in a negligible adverse effect at KOP 3, and mitigation would not be
39 required.

40 41 **KOP 4: View from the Desert Oasis Apartments in Primm, Nevada**

42 KOP 4 (Figure 3.2-11) is not located on BLM-managed land but includes views of a BLM VRM Class III area in the
43 foreground. Middleground and background views include land designated VRI Class III. The BLM does not assign
44 VRM classes to or assess visual impacts for private land but has assigned VRM and VRI classes for land visible from
45 this location. The sensitivity of this viewpoint is moderate to high: maintenance of visual resources is a major concern
46 for residents and the use of the area is high, although adjacent land uses include existing energy and industrial
47 development. This viewpoint is adjacent to the proposed transmission route, so the proposed project would be visible
48 in foreground views. The contrast rating worksheet for this KOP is located in Appendix C.

1 Construction would result in short-term changes to the foreground of the existing environment of KOP 4. Construction
2 of new access roads, decommissioning of existing transmission towers, installation of the telecommunications line,
3 and preparation of the transmission line tower structure sites would result in temporary generation of fugitive dust that
4 would be visible from KOP 4. Large equipment, delivery trucks, and construction equipment would be present during
5 construction, and movement of such vehicles could be visible. Transmission towers and associated conductors would
6 be visible in the foreground as they were erected throughout the construction period. However, the wall barrier
7 surrounding the apartment complex would block views of much of the construction activity, equipment, and material
8 storage.

9
10 Operation of the proposed project would result in long-term changes to the foreground of the existing environment of
11 KOP 4. Long-term visible changes would result from the addition of LSTs, the telecommunications line, and
12 associated conductors in the foreground. Taller LSTs would replace the existing H-frame towers in this view, resulting
13 in a strong change to the line of the structures in the foreground. Additionally, the conductor wire would be thicker
14 and would therefore strengthen horizontal lines visible in foreground views, resulting in a strong degree of visual
15 contrast. Areas permanently cleared of vegetation for access roads and transmission line towers would not be visible
16 in the foreground of KOP 4 due to the wall barrier surrounding the apartment complex.

17
18 Development of the proposed transmission line in this view, including construction and operation, would not result in
19 any visible change in the form, line, color, or texture of the landform and vegetation. Construction and operation of
20 the proposed transmission line in this view would result in a moderate change in the form, line, and color of structures
21 present in the foreground of the existing environment. The changes to the existing environment would be consistent
22 with the VRM Class III and VRI Class III designations assigned to the BLM-managed lands in the viewshed because
23 changes to structures visible from this vantage point would be moderate. Therefore, development of the proposed
24 transmission line would result in a minor, adverse affect and mitigation would not be required.

25 26 **KOP 5: View from the Ivanpah Dry Lake**

27 KOP 5 (Figure 3.2-12) is located within and includes foreground and middleground views of a VRI Class III area.
28 Background views include land managed according the VRM Class III objectives. The sensitivity of this viewpoint is
29 moderate to high: there is a high level of use and visual resources are a moderate concern for most recreational
30 users although there is significant adjacent development, both commercial and industrial. Visual concern is
31 considered moderate for most recreational users because the duration of views would be high and recreational
32 activities may be enhanced by visual resources although that is not the primary objective of the activity. This
33 viewpoint is located approximately 1 mile from the proposed transmission line route, so the proposed project would
34 be visible in middleground views. The contrast rating worksheet for this KOP is located in Appendix C.

35
36 Construction would result in short-term and long-term changes to the middleground of the existing environment.
37 Large equipment, delivery trucks, and construction equipment would be present during construction, and movement
38 of such vehicles could be visible. Transmission towers would become increasingly evident as they are erected
39 throughout the construction period. Construction of new access roads, decommissioning of existing transmission
40 towers, installation of the telecommunications line, and preparation of the transmission line tower structure sites
41 would result in temporary generation of fugitive dust and temporary clearing of vegetation that could be visible in
42 KOP 5 under certain conditions.

43
44 Operation of the proposed project would result in long-term changes to the middleground of the existing environment
45 of KOP 5 similar to those described for KOP 2. The LSTs, telecommunications line, and associated conductors would
46 generally blend in against the backdrop of the Spring Mountain Range and would barely be visible to not visible in
47 middleground views from KOP 5. Access roads, another permanent element of the proposed project, and other areas
48 permanently cleared of vegetation would likely not be visible from KOP 5.

49
50 Development of the proposed transmission line in this view, including construction and operation, would result in no
51 visible change in the form, line, color, or texture of the landform and vegetation. Construction and operation of the

1 proposed transmission line in this view would result in a weak change in the form, line, color, and texture for
2 structures present in the existing environment. The changes to the existing environment would be consistent with the
3 VRI Class III and VRM Class III designations assigned to these BLM-managed lands because all changes to
4 landform, vegetation, and structures visible from this vantage point would be weak. Therefore, development of the
5 proposed transmission line would result in a minor adverse effect, and mitigation would not be required.

6
7 **KOP 6: View from Interstate 15 near Primm, Nevada**

8 KOP 6 (Figure 3.2-13) is located within and includes foreground and middleground views of a VRI Class III area.
9 Background views include land managed according the VRM Class III objectives. The sensitivity of this viewpoint is
10 moderate to low: there is a high level of use, but visual resources are a low concern for most users and a low priority
11 for public concern. The sensitivity of this viewpoint is considered low because most viewers would be travelers on I-
12 15. Travelers that typically use this roadway are primarily concerned with reaching a destination as opposed to
13 driving specifically for recreation or sightseeing, and the posted speed limit is 70 miles per hour. Additionally, there is
14 no scenic highway designation for this roadway. The Town of Primm, Nevada has a number of hotels and casinos, a
15 gas station, and a truck stop Visitors to the Town of Primm and potential viewers of the proposed project include
16 tourists and travelers along I-15 who have stopped for amenities. This viewpoint is approximately 1 mile from the
17 proposed transmission line route, so the proposed project would be visible in middleground views. The contrast rating
18 worksheet for this KOP is located in Appendix C.

19
20 Construction would result in short-term changes to the middleground views similar to those described for KOP 5.

21
22 Operation of the proposed project would result in long-term minor changes to the middleground of the existing
23 environment of KOP 6 similar to those described for KOP 2. The LSTs, telecommunications line, and associated
24 conductors would introduce new vertical lines into the landscape; these elements of the proposed project would
25 result in weak visual change. Access roads and other areas permanently cleared of vegetation would likely not be
26 visible from KOP 6 because existing access roads in this viewshed are not discernable at middleground distances.

27
28 Development of the proposed transmission line in this view, including construction and operation, would result in no
29 visible change in the form, line, color, or texture of the land, water body, or vegetation. Construction of the proposed
30 project would be most visible as the transmission line crossed I-15 and could result in moderate visual impacts to
31 motorists along I-15. Operation of the proposed transmission line in this view would result in a weak change in the
32 form and line by introducing new vertical lines into the landscape for structures present in the existing environment.
33 The changes to the existing environment would be consistent with the VRI Class III and VRM Class III designations
34 assigned to these BLM-managed lands because all changes to landform, vegetation, and structures visible from this
35 vantage point would be weak. Therefore, development of the proposed transmission line would result in a minor
36 adverse effect, and mitigation would not be required.

37
38 **KOP 7: View from Highway 95 in the Eldorado Valley**

39 The photo in KOP 7 (Figure 3.2-14) was taken from BLM land managed as VRM Class III, but depicts views of
40 private land in the Eldorado Valley south of Boulder City, Nevada. The BLM does not assign VRM classes to or
41 assess visual impacts of private land. The sensitivity of this viewpoint is moderate to low: there is a high level of use,
42 but visual resources are a low concern for most users and a low priority for public concern. The sensitivity of this
43 viewpoint is considered low because most viewers would be travelers on Highway 95. Travelers that typically use this
44 roadway are primarily concerned with reaching a destination as opposed to driving specifically for recreation or
45 sightseeing, and the posted speed limit is 65 miles per hour. Additionally, there is no scenic highway designation for
46 this roadway, and there is other development visible in the existing view including a solar generation facility and the
47 existing Eldorado Substation and 115-kV transmission line. This viewpoint is approximately 3.5 miles from the
48 proposed transmission line route, so the proposed project would be visible in background views. The contrast rating
49 worksheet for this KOP is located in Appendix C.

1 Construction would result in short-term changes to the middleground of the existing environment of KOP 7.
2 Construction of new access roads, decommissioning of existing transmission towers, preparation of the transmission
3 line tower structure sites, installation of the telecommunications line, and expansion of the Eldorado Substation would
4 result in temporary generation of fugitive dust that could be visible from KOP 7 under certain conditions. Temporary
5 clearing of vegetation would not be visible from KOP 7. Large equipment, delivery trucks, and construction equipment
6 would be present during construction, and movement of such vehicles could be visible but may not hold the attention
7 of the viewer because the viewer would likely be traveling at high speeds.
8

9 New features of the proposed project in this view include the extension of the existing yard to install two 230-kV line
10 positions to accommodate the new double-circuit line within the existing footprint of the Eldorado Substation and
11 taller towers to support the proposed 230-kV transmission line that would replace the existing 115-kV transmission
12 line. Operation of the proposed project would result in long-term changes to the middleground of the existing
13 environment of KOP 7. Long-term changes would result from the addition of LSTs, associated conductors, the
14 telecommunications line, and expansion of the Eldorado Substation in the background; these new facilities in the
15 background would not be discernable from KOP 7. Areas permanently cleared of vegetation for access roads and
16 transmission line towers would not be visible in the background in middleground or background views.
17

18 Development of the proposed transmission line and the expansion of the Eldorado Substation in this view, including
19 construction, operation, and decommissioning, would result in no visible change in the form, line, color, or texture of
20 the landform, vegetation, or structures in the existing environment. These changes would be located within the
21 existing footprint of the Eldorado Substation and include extension of the existing yard to install two 230-kV line
22 positions to accommodate the new double-circuit line. Changes to the existing environment would be consistent with
23 the VRM Class III because the minor changes to the existing substation and installation of slightly larger towers
24 would not be discernable in background views due to the distance, short duration of views for motorists on Highway
25 95, and likelihood that the weak contrast in color between the proposed LSTs and the existing environment would
26 cause the structures to recede into the background. Therefore, development of the proposed transmission line and
27 the expansion of the Eldorado Substation would result in a negligible adverse effect, and mitigation would not be
28 required.
29

30 **KOP 8: View from the Highway 164 Overpass in the Ivanpah Valley**

31 KOP 8 is located within and includes views of land managed as VRI Class III. The sensitivity of this viewpoint is
32 moderate to low: there is a high level of use, but visual resources are a low concern for most users and a low priority
33 for public concern. The sensitivity of this viewpoint is considered low because most viewers would be travelers on I-
34 15. Travelers that typically use this roadway are primarily concerned with reaching a destination as opposed to
35 driving specifically for recreation or sightseeing, and the posted speed limit is 70 miles per hour. Additionally, there is
36 no scenic highway designation for this roadway. Further, existing development in and around Primm, Nevada is
37 visible in background views. This viewpoint is located approximately 5 miles from the proposed transmission line
38 route, so the proposed project would be visible in background views. The contrast rating worksheet for this KOP is
39 located in Appendix C.
40

41 Construction would result in short-term changes to the background of the existing environment of KOP 8.
42 Construction of new access roads, decommissioning of existing transmission towers, preparation of the transmission
43 line tower structure sites, installation of the microwave tower, installation of the telecommunications line, and
44 construction of the proposed Ivanpah Substation would result in temporary generation of fugitive dust that could be
45 visible in KOP 8 under certain conditions. Temporary clearing of vegetation would not likely be visible from KOP 8.
46 Large equipment, delivery trucks, and construction equipment would be present during construction, and movement
47 of such vehicles would be visible.
48

49 Operation of the proposed project would result in long-term changes to the background of the existing environment of
50 KOP 8. Long-term changes would result from the addition of LSTs, associated conductors, the proposed Ivanpah
51 Substation, and vegetation clearing. The proposed Ivanpah Substation would be visible in the background of KOP 8;

the LSTs, associated conductors, and telecommunications line would not be visible. The substation would introduce a new structure into the landscape that would contrast in color with the existing environment, would introduce new vertical lines, and would draw the attention of the viewer. Areas permanently cleared of vegetation for the proposed Ivanpah Substation could be visible in the background of KOP 8; permanently cleared vegetation for access roads and transmission line towers would be visible as well, drawing the attention of the viewer by introducing contrast in color and texture. These changes would distract from views of the existing geologic formation present in the background.

Construction and operation would result in a moderate change in the color of the landform, a weak change in the line of vegetation, and a moderate contrast with existing structures in the background of KOP 8. The changes to the existing environment would be consistent with the VRI Class III designation assigned to these BLM-managed lands because the VRM Class III designation allows for moderate change. Additionally, mitigation measures AES-1, AES-2, and AES-3 would lessen the contrast that would be introduced to the existing colors in the viewshed and minimize the dominance of the substation and microwave tower within the view.

NEPA Impact Summary Statement

The proposed project would result in 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.

With respect to operational impacts associated with the permanent presence of the proposed project, of the eight KOP's evaluated, seven would conform with the established VRM or VRI classes and one would not conform (Table 3.2-1).

Table 3.2-1 Conformance with VRM or VRI Class

Key Observation Point	VRM/VRI Class	Distance	Sensitivity	Conformity Determination
KOP 1: View of the Transmission Corridor Looking Northeast toward the McCullough Mountain Range	VRM Class II and VRM Class III	Foreground and Middleground	Moderate	Does not Conform with VRM Class II
KOP 2: View from the South McCullough Wilderness Area	VRM Class II	Background	Moderate	Conforms
KOP 3: View from Interstate 15 near Jean, Nevada	VRM Class III	Seldom Seen	Low	Conforms
KOP 4: View from the Desert Oasis Apartments in Primm, Nevada	VRM Class III and VRI Class III	Foreground	Moderate to High	Conforms
KOP 5: View from Ivanpah Dry Lake, East of Interstate 15	VRM Class III	Middleground	Moderate to High	Conforms
KOP 6: View from Interstate 15 near Primm, Nevada	VRM Class III	Middleground	Low	Conforms
KOP 7: View from Highway 95 in the Eldorado Valley	VRM Class III	Background	Low	Conforms

Table 3.2-1 Conformance with VRM or VRI Class

Key Observation Point	VRM/VRI Class	Distance	Sensitivity	Conformity Determination
KOP 8: View from Highway 164 Overpass in the Ivanpah Valley	VRI Class III	Background	Low	Conforms with Mitigation

In addition to the measures proposed by the applicant specifically to minimize impacts on aesthetics and visual resources (APM AES-1 through APM AES-8), additional mitigation would be required to lessen impacts on visual resources to the greatest extent possible. 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.

CEQA Significance Determinations

IMPACT AES-1: Adverse Impact to a Scenic Vista
less than significant with mitigation

Designated scenic vistas do not occur in the proposed project area; however, the telecommunications portion of the proposed project would traverse land designated VRM Class II, which is managed to preserve visual resources. Additionally, the proposed project would be located within the vicinity of the South McCullough Wilderness Area and the Wee Thump Joshua Tree Wilderness Area, both of which are managed as VRM Class I areas. Construction of new access roads, upgrades to existing transmission towers, and installation of the telecommunications line would result in temporary generation of fugitive dust that would be visible within the VRM Class II area and from both the South McCullough Wilderness Area and the Wee Thump Joshua Tree Wilderness Area. Large equipment, delivery trucks, and construction equipment would be present during construction, and movement of such vehicles would be visible. However, impacts to visual resources due to construction would be temporary.

The telecommunications line would be strung on the existing 500-kV Eldorado–Lugo Transmission Line. This change would not be discernable as there is already an existing 500-kV transmission line in the viewshed. No change would be visible from the South McCullough Wilderness Area or the Wee Thump Joshua Tree Wilderness Area.

Because the telecommunications line would be strung on existing structures and not visibly discernable from wilderness areas, and impacts to visual resources would be limited to temporary construction activities, the proposed project would result in a less than significant impact under this criterion.

IMPACT AES-2: Substantially Degrade Existing Visual Character or Quality
less than significant with mitigation

As discussed under the Impacts by Key Observation Point section above, the proposed project would conflict with VRM or VRI objectives for one of the eight KOPs. At KOP 1, the proposed project would introduce moderate levels of contrast with the existing structures in the viewshed by introducing linear elements of a larger scale and more prominent color. This is the only KOP that shows views of VRM Class II areas; all other KOPs show views of VRM Class III or VRI Class III areas.

Overall, the proposed project would not result in substantial degradation of the landscape. The proposed project would be consistent with VRM or VRI objectives for seven of the eight KOPs due to distance; relatively low viewer concern by many of the temporary visitors to the area; and the fact that the proposed project would replace an existing line, repeating the patterns currently visible in the landscape. There would be two new structures constructed as part of the proposed project: the Ivanpah Substation and the microwave tower. As described above in MM AES-1, the applicant would consult with the BLM to paint these structures a color that would minimize visual contrast with the surrounding landscape, reducing the level of contrast that would be introduced. MM AES-2 would further reduce contrast in color and line that would be introduced by the proposed Ivanpah Substation by requiring the applicant to

1 stain rock disturbed by clearing and grading activities. MM AES-3 would reduce the color contrast that would be
2 introduced by a white microwave dish or cover by requiring the applicant to consult with the BLM prior to construction
3 to choose a BLM approved color. Additionally, the proposed project would be located in an energy corridor already
4 crossed by numerous transmission lines. Therefore, even though the proposed project would conflict with VRM or
5 VRI objectives for one of the eight KOPs, the proposed project would not substantially degrade the existing visual
6 character or quality of the landscape and would result in a less than significant impact under this criterion.

7
8 **IMPACT AES-3: Create a New Source of Light or Glare**
9 less than significant without mitigation

10
11 Lighting would only be installed for the proposed Ivanpah Substation. The applicant would install manually operated
12 substation lighting, which would only be required for non-routine nighttime work. Lighting would be directed
13 downward and shielded to eliminate off-site light spill (APM AES-8). Therefore, the proposed project would result in a
14 less than significant impact under this criterion.

15
16 **NO IMPACT. Adverse Impact to Scenic Resources within a State Scenic Highway.** The proposed project does
17 not traverse any designated or eligible state scenic highways within the proposed project area. Consequently, the
18 proposed project would not have the potential to substantially damage scenic resources (including trees, rock
19 outcroppings, and historic buildings) within a designated or eligible state scenic highway.

20 21 **3.2.3.6 No Project / No Action Alternative**

22
23 Under the No Project Alternative, the proposed project, including the transmission line, the proposed Ivanpah
24 Substation, the telecommunications line, and all other components of the proposed project, would not be constructed.
25 Therefore, none of the changes to the existing visual environment discussed in Section 3.2.3.5, "Proposed Project,"
26 would occur, and there would be no adverse impact to visual resources.

27 28 **3.2.3.7 Transmission Alternative Route A**

29
30 Regarding potential construction and operation aesthetics impacts to sensitive viewpoints, Transmission Line
31 Alternative A is similar to the proposed project. Alternative A would be visible only from KOP 7; all other segments of
32 this alternative would be identical to the proposed project, as discussed in Section 3.2.3.5, "Proposed Project."

33
34 Transmission Line Alternative A would be present, but not visually distinguishable from KOP 7. This alternative would
35 follow the same route as the portion of the proposed transmission line present in this view, except for a portion in the
36 far middleground. In the far middleground, the alternative route would continue running southwest toward the
37 McCullough Pass instead of turning northwest to follow the existing transmission line route. This alternative would
38 reconnect with the existing transmission line before entering the McCullough Mountain Range. These changes would
39 result in stronger overall visual contrast where the route would veer from the existing 115-kV transmission line route
40 than the proposed project due to the structures not paralleling existing transmission facilities. However, these
41 changes would still be consistent with a VRM Class III designation; therefore, implementation of transmission line
42 Alternative A and the expansion of the Eldorado Substation would result in minor adverse effects.

43
44 Impacts from this alternative would be less than significant, and mitigation would not be required.

45 46 **3.2.3.8 Transmission Alternative Route B**

47
48 Regarding potential construction and operation aesthetics impacts to sensitive receptors, Transmission Line
49 Alternative B is similar to the proposed project. Alternative B would be visible only from KOP 7; all other segments of
50 this alternative would be identical to the proposed project, as discussed in Section 3.2.3.5, "Proposed Project."

1 Transmission Line Alternative B would be present but not visually distinguishable from KOP 7. This alternative route
2 would originate at the Eldorado Substation and then run north-northeast before turning southwest, reconnecting with
3 the existing transmission line route in the far middleground of this view. These changes would result in stronger
4 overall visual contrast where the route would veer from the existing 115-kV transmission line route than the proposed
5 project due to the structures not paralleling existing transmission facilities. However, these changes would still be
6 consistent with a VRM Class III designation; therefore, implementation of transmission line Alternative A and the
7 expansion of the Eldorado Substation would result in minor adverse effects.

8
9 Impacts from this alternative would be less than significant, and mitigation would not be required.

11 3.2.3.9 Transmission Alternative Route C

12
13 Regarding potential construction and operation aesthetics impacts to sensitive receptors, Transmission Line
14 Alternative C is similar to the proposed project. Alternative C would only differ from the proposed project analysis at
15 KOPs 4, 5, and 6; all other segments of this alternative would be identical to the proposed project, as discussed in
16 Section 3.2.3.5, "Proposed Project."

17
18 The Transmission Line Alternative C route would not be visible from KOPs 4 and 5. This alternative would re-route
19 the proposed transmission line to the west of the town of Primm, through the Spring Mountain Range, and would
20 run the route along the west side of the Ivanpah Lake before it reconnected with the existing transmission line route.
21 Implementation of this route would result in removal of the existing transmission line adjacent to the Desert Oasis
22 Apartment Complex. These changes would result in stronger overall visual contrast where the route would veer from
23 the existing 115-kV transmission line route than the proposed project due to the structures not paralleling existing
24 transmission facilities. However, these changes would still be consistent with a VRM Class III designation; therefore,
25 implementation of transmission line Alternative C would result in minor adverse effect from KOPs 4 and 5 and would
26 lessen the visual impact on residents of the Desert Oasis Apartment Complex and recreational users of the Ivanpah
27 Dry Lake.

28
29 This alternative also would not be visible in the views from KOP 6, which represents views from I-15. However, this
30 alternative would still cross I-15, albeit in a different location and, therefore, would not lessen visual impacts to
31 motorists along I-15.

32
33 Impacts from this alternative would be less than significant, and mitigation would not be required.

35 3.2.3.10 Transmission Alternative Route D and Subalternative E

36
37 Regarding potential construction and operational impacts to sensitive viewpoints, Transmission Line Alternative D
38 and Subalternative E are similar to the proposed project. These alternatives would only differ from the proposed
39 project analysis at KOPs 4, 5, and 6; all other segments of these alternatives would be identical to the proposed
40 project as discussed in Section 3.2.3.5, "Proposed Project."

41
42 Transmission Line Alternative D and Subalternative E would not be visible in the view from KOP 4. These
43 alternatives would re-route the proposed transmission line to the east of the Town of Primm to match the footprint of
44 an existing 500-kV transmission line. The route would cross the Ivanpah Lake before reconnecting with the existing
45 transmission line route. Implementation of these routes would result in removal of the existing transmission line
46 adjacent to the Desert Oasis Apartment Complex. These changes would be consistent with the VRM Class III
47 designation for the area. Therefore, implementation of transmission line Alternatives D and E would result in no
48 adverse effect from KOP 4 and would lessen the impacts to residents of the Desert Oasis Apartment Complex.

49
50 These alternatives would be visible from KOPs 5 and 6. These alternatives would route the transmission line closer
51 to KOPs 5 and 6 and would result in stronger overall visual contrast due to the structures not paralleling existing

1 transmission facilities along this alternative route; however, the increased visual contrast due to the proximity of the
2 transmission line to the KOPs would represent only an incremental change and would not substantially change the
3 analysis in Section 3.2.3.5, "Proposed Project." Transmission Alternative D and Subalternative E would have the
4 same visual impact on recreational users of the Ivanpah Dry Lake and motorists along I-15 as would the proposed
5 project. These changes would still be consistent with a VRM Class III designation; therefore, implementation of
6 transmission line Alternative D and Subalternative E would only result in minor adverse effects.

7
8 While these alternatives would match the footprint of an existing 500-kV transmission line which would mimic the
9 linear pattern of that line, these alternatives would require a new ROW and therefore would result in a slight increase
10 in visual impacts. However, impacts from this alternative would still be less than significant, and mitigation would not
11 be required.

12 13 **3.2.3.11 Telecommunication Alternative (Golf Course)**

14
15 Regarding potential construction and operation aesthetics impacts to sensitive receptors, the Golf Course Alternative
16 is similar to the proposed project. This alternative would only differ from the proposed project analysis at KOP 8; all
17 other segments of this alternative would be identical to the proposed project as discussed in Section 3.2.3.5,
18 "Proposed Project."

19
20 The Golf Course Alternative would consist primarily of installing the telecommunications line underground along
21 Nipton Road for an additional 9 miles and stringing the telecommunications line along existing 33-kV distribution lines
22 to connect with the proposed Ivanpah Substation. This alternative would result in moderate temporary impacts due to
23 an additional segment of trenching along Nipton Road. The portion of the telecommunications line that would be
24 strung along the existing 33-kV distribution lines would not result in a visual impact because the line would be
25 imperceptible except at an extremely close distance.

26
27 This alternative would be installed in a new underground duct beneath the Primm Valley Golf Course. This would
28 result in an increased visual impact to users of the Golf Course during the construction period due to trenching
29 activities, exposure of soils, storage of construction equipment, and transportation of materials. These impacts would
30 be temporary, and overall this alternative would only result in minor adverse visual effects.

31
32 Impacts from this alternative would be less than significant, and mitigation would not be required.

33 34 **3.2.3.12 Telecommunication Alternative (Mountain Pass)**

35
36 Regarding potential construction and operation aesthetics impacts to sensitive receptors, the Mountain Pass
37 Alternative is similar to the proposed project. This alternative would only differ from the proposed project analysis at
38 KOP 8; all other segments of this alternative would be identical to the proposed project as discussed in Section
39 3.2.3.5, "Proposed Project."

40
41 The Mountain Pass Alternative would consist primarily of installing the telecommunications line underground along
42 Nipton Road for an additional 9 miles and stringing the telecommunications line along existing 33-kV distribution lines
43 to connect with the proposed Ivanpah Substation. This alternative would result in moderate temporary impacts due to
44 an additional segment of trenching along Nipton Road.

45
46 The segment that would be strung along existing 33-kV distribution lines would traverse an area designated VRI
47 Class II, which has stricter objectives for visual resources than the proposed route, which would cross areas with VRI
48 Class III designations. The segment of the telecommunications line that would be strung along the existing 33-kV
49 distribution lines would not result in a visual impact because the line would be imperceptible except at an extremely
50 close distance. Impacts would be limited to construction activities including stringing the telecommunication line,

1 transporting materials, storing equipment, and possibly constructing new or upgrading existing access roads. These
2 impacts would be temporary, and overall this alternative would only result in minor adverse visual effects.

3
4 Impacts from this alternative would be less than significant, and mitigation would not be required.

5 6 **3.2.4 Mitigation Measures**

7
8 The following mitigation would be required to lessen impacts on aesthetics and visual resources:

9
10 **MM AES-1: Painting the Ivanpah Substation.** Prior to construction, the applicant will consult with the BLM to
11 select an appropriate color from the BLM approved palette to paint any enclosed structures that would be
12 constructed for the Ivanpah Substation. The applicant will submit photographs following substation construction
13 to the BLM and the CPUC to document compliance with this measure.

14 **MM AES-2: Rock Staining near the Ivanpah Substation.** For areas that are cleared and/or graded to construct
15 the Ivanpah Substation, the applicant would consult with the BLM regarding feasible methods to treat the
16 exposed rock to match the overall color of the adjacent weathered rock.

17 **MM AES-3: Microwave Dish Color.** Prior to construction, the color of the microwave dishes or covers must be
18 approved by the BLM. White dishes or covers will be avoided to minimize color contrast with the existing
19 landscape.

20 21 **3.2.5 Whole of the Action / Cumulative Action**

22
23 Below is a brief summary of information related to aesthetics in the BLM's ISEGS Final Environmental Impact
24 Statement (FEIS) and the California Energy Commission's (CEC's) Final Staff Assessment (FSA) and Addendum.
25 This section focuses on differences in the ISEGS setting and methodology compared with the setting and
26 methodology discussed above for the EITP. This section also discloses any additional impacts or mitigation imposed
27 by the BLM and CEC for ISEGS.

28 29 **3.2.5.1 ISEGS Setting**

30
31 The ISEGS project would be developed on four square miles of BLM land west of I-15 and the northern half of the
32 Ivanpah Dry Lake bed, east of the foot of the Clark Mountains. The ISEGS site consists of primarily bajada scrub with
33 minimal surface disturbance. There is a vivid 416-foot rock formation at the center of the proposed site. The ISEGS
34 project site would be collocated with the proposed Ivanpah Substation site. The existing visual character of this
35 location and the potentially affected viewer groups are described in greater detail in Section 3.2.1.2, "Ivanpah and
36 Eldorado Substations."

37
38 BLM and CEC staff determined that the Ivanpah Valley floor has moderate overall visual sensitivity (with moderate
39 existing visual quality, moderately high viewer concern, and high viewer exposure), which was determined to be
40 generally consistent with a Visual Resource Inventory (VRI) Class III assigned by the BLM for the area.

41 42 **Key Observation Points**

43 The BLM and the CEC selected KOPs that represent typical views of project components and views from sensitive
44 locations. For the visual resources analysis in the ISEGS document, BLM and CEC staff selected the following 10
45 KOPs:

- 46
47 • KOP 1: View from Primm Valley Golf Course
- 48 • KOP 2: Second View from Primm Valley Golf Course

- 1 • KOP 3: View of Ivanpah 2 and 3 from I-15 near Yates Well Road (middleground-distance viewpoint)
- 2 • KOP 4: View of Ivanpah 1 from I-15 near Yates Well Road (middleground-distance viewpoint)
- 3 • KOP 5: View from I-15 at Nipton Road (background-distance viewpoint)
- 4 • KOP 6: View from the east side of Ivanpah Dry Lake
- 5 • KOP 7: View from the west side of Ivanpah Dry Lake
- 6 • KOP 8: View from Primm, Nevada
- 7 • KOP 9: View from the Umberci Mine in the Stateline Wilderness Area
- 8 • KOP 10: View from the Mojave National Preserve near the Benson Mine

9
10 A map showing these points in relation to the proposed ISEGS project, photos from these locations, and a
11 description of the visual character of these views are included in the ISEGS FSA/DEIS.

12 13 **Applicable Laws, Regulations, and Standards**

14 The ISEGS project is subject to the same federal, State of California, and San Bernardino County laws, regulations
15 and standards as EITP, as discussed in Section 3.2.2, “Applicable Laws, Regulations, and Standards.”

16 17 **3.2.4.2 Methodology**

18
19 The methodologies used by the CEC and the BLM for the respective analyses to visual impacts are similar and
20 consistent. The analysis of impacts to visual resources for the ISEGS FSA/DEIS was conducted using the methods
21 typically used by the CEC to assess impacts to visual resources; CEC and BLM stated that this method and the
22 findings that resulted from this analysis were essentially consistent with findings that would be obtained using the
23 BLM VRM methodology as described in Section 3.2.3.3, “Methodology.” The CEC’s FSA Addendum used the same
24 methodology, and the BLM’s FEIS used the BLM VRM methodology. Ratings of visual sensitivity and the visual
25 contrast that would be introduced by the proposed project in both the CEC and BLM documents were made based on
26 field observation, photo documentation, and review of applicant-prepared simulations and project information.

27
28 ~~Staff considered whether there would be a significant impact under NEPA using the following criteria~~ The CEC and
29 the BLM used the same criteria to assess impacts to visual resources, as follows:

- 30
31 ~~• Significant impacts to visual resources are analyzed in terms of context and intensity (40 CFR 1508.27).~~
32 ~~Context considers the affected region and interest in and use of the region, among other factors. Intensity~~
33 ~~refers to the severity of the impact; for the analysis of impacts to visual resources, relevant factors include~~
34 ~~“unique characteristics of the geographic area such as proximity to historic or cultural resources, park~~
35 ~~lands...,” degree of controversy, degree of uncertainty about possible effects, degree to which an action~~
36 ~~may establish a precedent for future actions, and potential for cumulatively significant impacts.~~

37
38 ~~Staff considered whether there would be a significant impact under CEQA using the following criteria:~~

- 39
40 • Would the project have a substantial adverse effect on a scenic vista?
- 41 • Would the project substantially damage scenic resources, including, but not limited to, trees, rock
42 outcroppings, and historic buildings within a State Scenic Highway?
- 43 • Would the project substantially degrade the existing visual character or quality of the site and its
44 surroundings?

- Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Staff The CEC additionally considered whether the project would violate any local laws, ordinances, or regulations related to visual resources, including light and glare.

3.2.4.3 Impacts

The CEC and the BLM have published the impacts described below related to visual resources for the ISEGS project.

CEC FSA Addendum Impact Conclusions

The CEC concludes that the Mitigated Ivanpah 3 project would result in significant and unavoidable adverse impacts to existing scenic resource values as seen in views from the following locations:

- Middle-ground-distance viewpoints on Highway I-15;
- Viewpoints in the Mojave National Preserve on the east face of Clark Mountain; and
- Viewpoints in the Stateline Wilderness Area, including the Umberci Mine and vicinity.

The CEC also concludes that the Mitigated Ivanpah 3 Project would result in impacts due to the introduction of new sources and light and glare due to the installation of three solar receivers. The impact due to the introduction of new sources of light and glare would be lessened with Conditions of Certification TRANS-3 and TRANS-4. However, although these measures would reduce the hazard potential of the project and lessen the overall impact due to glare, the solar receivers would still represent a visually dominant feature, potentially interfering with scenic views of Clark Mountain from the valley floor.

The project would be sited entirely on BLM-managed public lands managed according to the CDCA Plan. With a plan amendment, the ISEGS project would conform to the BLM's CDCA plan. The visual resource goals and policies contained in the San Bernardino County General Plan Conservation and Open Space Elements would apply only to infrastructure and construction activities on private or County land. Therefore, the Mitigated Ivanpah 3 Alternative would conform with all applicable laws and regulations for visual resources.

BLM's FEIS Impact Conclusions

Construction

~~It is estimated that project construction would take place over a 48-month period. Impacts to visual resources during the construction phase of the ISEGS project would result from construction parking and laydown areas, including temporary fabrication buildings; exposed soils due to grading of the 4-square-mile project site; fugitive dust from grading and other construction-related activities; and nighttime construction lighting. These activities would create a strong degree of visual change from vantage points along I-15, in the Clark Mountains, and from the Mojave National Preserve.~~

~~To address fugitive dust concerns, the BLM and CEC staff recommends Conditions of Certification AQ-SC3, AQ-SC4, and AQ-SC7 as well as SOIL&WATER 1, which would reduce impacts to visual resources from fugitive dust to less than significant levels. To address potential light pollution impacts, staff recommend Condition of Certification VIS-4 (described in Section 3.2.5.4, "Mitigation Measures"), which would reduce impacts due to nighttime construction to less than significant. To address long-term impacts due to grading of the site, staff recommends Condition of Certification BIO-14, referenced in Condition of Certification VIS-3 (described in Section~~

1 3.2.5.4, “Conditions of Certification/Mitigation Measures” below), which requires the revegetation of all disturbed soil
2 surfaces.

3
4 It is estimated that project construction would take place over a 40-month period. Impacts to visual resources during
5 the construction phase of the ISEGS project would result from construction parking and laydown areas, including
6 temporary fabrication buildings; exposed soils due to grading of the 4-square-mile project site; fugitive dust from
7 grading and other construction-related activities; and nighttime construction lighting. The BLM concludes that these
8 visual changes from construction would be incompatible with the moderate overall visual sensitivity of the
9 Ivanpah Valley, as experienced from affected viewpoints on the highway, and the high overall visual sensitivity
10 of viewpoints in the Clark Mountains, and would last for a period of several years; therefore, construction would
11 result in a potentially adverse impact.

12
13 Mitigation Measures BIO-14, BIO-27, and VIS-3 would be implemented to lessen the long-term effects of site
14 grading. Impacts due to fugitive dust are addressed in Mitigation Measures AQ-SC3 and AQ-SC7. To address
15 potential light pollution impacts, Mitigation Measure VIS-4 would be implemented.

16 17 **Operation**

18 **Scenic Vistas**

19 There are no designated scenic vistas in the ISEGS project area; however, given the high scenic quality and high
20 levels of recreational use, for the purpose of the analysis, the BLM considered viewpoints within the Clark Mountains
21 in the Stateline Wilderness Area (KOP 9 below) and viewpoints within the Mojave National Preserve (KOP 10 below)
22 equivalent to designated scenic vistas. Additionally, BLM stated that views of the Clark Mountains from I-15 could be
23 considered a designated scenic vista in light of the county scenic highway designation for I-15.

24
25 As described below for KOPs 9 and 10, which represent views from the State Wilderness Area and the Mojave
26 National Preserve, respectively, the BLM concluded that the project would alter panoramic views of the Ivanpah
27 Valley from mostly undisturbed desert scrub landscape to views of industrial development dominated by expansive
28 mirror arrays, 459-foot-tall solar collector towers, substantial grading, and associated project components and
29 equipment. BLM concluded that the resulting visual change would constitute a substantial adverse visual effect.

30
31 Views from the I-15 corridor would not be substantially obstructed by the ISEGS project, but glare from the project
32 could strongly alter the character of these views.

33 34 **State Scenic Highways**

35 There are no eligible or designated State Scenic Highways within the ISEGS project area. The project would be
36 located adjacent to I-15, immediately adjacent to a prominent rock outcropping that is a landmark for viewers in the
37 area. BLM states that the project would not directly damage the rock outcropping, but would dramatically alter its
38 visual setting.

39 40 **Existing Visual Character**

41 The BLM and CEC staff determined that the Ivanpah Valley floor has moderate overall visual sensitivity (with
42 moderate existing visual quality, moderately high viewer concern and high viewer exposure), which is generally
43 consistent with VRI Class III. Impacts of the ISEGS project to visual character from the 10 KOPs are described
44 below. The project would result in an adverse impact from the following KOPs:(as seen from Key Observation Points)
45

46 As noted in Section 3.2.5.1, “Setting,” BLM and CEC staff determined that the Ivanpah Valley floor has moderate
47 overall visual sensitivity (with moderate existing visual quality, moderately high viewer concern, and high viewer
48 exposure), which is generally consistent with VRI Class III. The BLM and CEC determined that the ISEGS project

1 | would result in potentially substantial adverse impacts to existing scenic resources from six of the 10 KOPs, as
2 | described below.

3 |
4 | KOPs 1-2: View from Primm Valley Golf Course

5 | From these vantage points, the ISEGS project would create a strong level of contrast by introducing a strong
6 | vertical line and form, the effect of which would be amplified by reflected sunlight; a textural contrast with the
7 | existing character of the desert scrub landscape; and contrast in hue and brightness with the existing
8 | undisturbed soil surfaces. Additionally, the ISEGS project would exhibit strong special and scale dominance. The
9 | ISEGS document concludes that while the strong level of visual change from this vantage point would result in a
10 | potentially significant impact given the moderate overall sensitivity of the Ivanpah Valley, implementation of
11 | Conditions of Certification Mitigation Measures VIS-1 and VIS-2 (described in Section 3.2.5.4, "Mitigation
12 | Measures") would mitigate the impact to less than significant levels would lessen the impact.

13 | KOPs 3-4: Middleground-distance viewpoints on I-15

14 | From these vantage points, the ISEGS project would introduce a strong vertical line and form, which would
15 | create a strong level of visual contrast that would be amplified by reflected sunlight. Additionally, the vast scale
16 | and visual magnitude of the mirrors would create a strong textural contrast with the existing character of the
17 | desert scrub landscape, and visible areas of disturbed soil could create a strong contrast with the hues and
18 | brightness of the existing undisturbed soil surface. This strong level of overall visual change would not be
19 | compatible with the moderate overall sensitivity level of the Ivanpah Valley as seen by motorists in the
20 | visual middle-ground and would result in a potentially adverse visual impact. BLM and CEC staff stated that
21 | implementation of Condition of Certification VIS-1 would lessen the impact to visual resources from KOPs 3 and
22 | 4, but would not fully address the level of contrast that would be introduced by the ISEGS project. Mitigation
23 | Measure VIS-1 would lessen the contrast introduced by the mirror arrays.

24 | KOP 5: Background-distance viewpoint on I-15

25 | From this vantage point, the ISEGS project would introduce a moderate level of visual contrast and project
26 | dominance would be moderate (or co-dominant). Due to the large numbers of motorists traveling along I-15 and
27 | the fact that this segment of I-15 has been designated a County scenic route by San Bernardino County, viewer
28 | sensitivity from this KOP would be moderate. The BLM concluded that visual impacts from background distance
29 | zone views would be compatible with moderate levels of sensitivity; however, the project would result in a
30 | potentially adverse and unavoidable impacts from middleground and foreground distance zones.

31 | KOP 9: View from the Umberci Mine in the Stateline Wilderness Area

32 | From this vantage point, the ISEGS project would introduce strong contrast in form, line, color, and texture. Due
33 | to the relative proximity of the project and the elevated angle of the view, the scale and spatial dominance of the
34 | project would be high, and the bright solar receivers would obstruct views of the Clark Mountains to a moderate
35 | to strong degree. The strong degree of visual contrast that would be introduced by ISEGS at this KOP would not
36 | be compatible with the moderate overall visual sensitivity of the Ivanpah Valley or the high overall sensitivity of
37 | the Stateline Wilderness area. Therefore, the project would result in an re-would be a significant adverse impact
38 | to visual resources from this viewpoint even with the incorporation of mitigation.

39 | KOP 10: View from the Mojave National Preserve near the Benson Mine

40 | From this vantage point, the ISEGS project would introduce strong contrast in form, line, color, and texture. From
41 | the elevated viewpoint, the mirror arrays would be a dominant feature in the view and would produce nuisance
42 | glare at various periods throughout the day. The strong level of contrast that would be introduced by the ISEGS
43 | project from this vantage point would not be compatible with the overall moderate visual sensitivity of the
44 | Ivanpah Valley and would disrupt scenic views from the Mojave National Preserve. Therefore, there would be a
45 | significant the project would result in an adverse impact to visual resources from this viewpoint even with the
46 | incorporation of mitigation.
47 |

1 The BLM and the CEC staff determined that the project would not result in a substantial adverse impact to existing
2 scenic resources from four of the 10 KOPs, as described below the contrast that would be introduced by the project
3 would be compatible with the sensitivity ratings for the following KOPs.

4
5 KOP 5: Background distance viewpoint on I-15

6 From this vantage point, the ISEGS project would introduce a moderate level of visual contrast and project
7 dominance would be moderate (or co-dominant). Impacts to visual resources from this KOP would be less than
8 significant because moderate visual contrast would be consistent with the site's moderate overall sensitivity.
9 However, staff notes that the degree of contrast would increase as motorists travel toward the project site,
10 increasing the level of visual contrast from middleground distances and resulting in potentially significant impacts
11 to visual resources.

12 KOP 6: View from the east side of the Ivanpah Dry Lake

13 From this vantage point, the overall visual change introduced by the ISEGS project would be weak to moderate,
14 due to the distance and the low, oblique viewing angle. This level of visual change would be compatible with the
15 overall moderate visual sensitivity of the project area, and therefore impacts to visual resources from this
16 viewpoint would be less than significant without mitigation. BLM concluded that the weak to moderate levels of
17 overall project visual change would be compatible with the moderate overall visual sensitivity of the setting
18 from this viewpoint.

19 KOP 7: View from the west side of Ivanpah Dry Lake

20 From this vantage point, the ISEGS project would introduce weak to moderate levels of overall visual change
21 due to the distance and the low, oblique viewing angle. BLM concluded that the weak to moderate levels of
22 overall project visual change would be compatible with the moderate overall visual sensitivity of the setting
23 from this viewpoint. These would be compatible with the moderate overall visual sensitivity of the project area;
24 therefore, impacts to visual resources from this viewpoint would be less than significant without mitigation.

25 KOP 8: View from Primm, Nevada

26 From this vantage point, viewer exposure and orientation to the ISEGS project site would be limited. Visual
27 quality at this location is relatively low due to development in the Town of Primm. Due to the oblique angle and
28 distance, overall visual change from this vantage point would be weak to moderate, and would be compatible
29 with the moderate overall visual sensitivity of the Ivanpah Valley. BLM concluded that the weak to moderate
30 levels of overall project visual change would be compatible with the moderate overall visual sensitivity of the
31 setting from this viewpoint. Impacts would be less than significant without mitigation.

32
33 **CEQA Impact Discussion**

34 The BLM and CEC staff additionally determined that the ISEGS project would result in significant impacts to visual
35 resources under the four CEQA criteria listed above in Section 3.2.5.2, "Methodology." Impacts to scenic vistas, to
36 scenic highways, to the existing visual character of the project area, and due to light and glare are summarized
37 below.

38
39 **Scenic Vistas**

40 There are no designated scenic vistas in the ISEGS project area; however, given the high scenic quality and high
41 levels of recreational use, for the purpose of the analysis, the CEC and the BLM staff considered viewpoints within
42 the Clark Mountains in the Stateline Wilderness Area (KOP 9) and viewpoints within the Mojave National Preserve
43 (KOP 10) equivalent to designated scenic vistas. Additionally, CEC and BLM staff stated that views of the Clark
44 Mountains from I-15 could be considered a designated scenic vista in light of the county scenic highway designation
45 for I-15.

46
47 As described above for KOPs 9 and 10, which represent views from the State Wilderness Area and the Mojave
48 National Preserve, respectively, the ISEGS FSA/DEIS concluded that the project would alter panoramic views of the

Ivanpah Valley from mostly undisturbed desert scrub landscape to views of industrial development dominated by expansive mirror arrays, 459-foot-tall solar collector towers, substantial grading, and associated project components and equipment. BLM and CEC staff concluded that the resulting visual change would constitute a substantial adverse visual effect.

Views from the I-15 corridor would not be substantially obstructed by the ISEGS project, but glare from the project could strongly alter the character of these views.

State Scenic Highways

There are no eligible or designated State Scenic Highways within the ISEGS project area. The project would be located adjacent to I-15, immediately adjacent to a prominent rock outcropping that is a landmark for viewers in the area. The ISEGS FSA/DEIS states that the project would not directly damage the rock outcropping, but would dramatically alter its visual setting.

Existing Visual Character

The BLM and CEC staff determined that the Ivanpah Valley floor has moderate overall visual sensitivity (with moderate existing visual quality, moderately high viewer concern and high viewer exposure), which is generally consistent with VRI Class III. Impacts of the ISEGS project to visual character from the 10 KOPs are described above. Impacts to visual resources from six of the 10 KOPs would be significant and adverse even with implementation of Conditions of Certification VIS-1 through VIS-4.

Light and Glare

Glare is considered a major issue of concern for the ISEGS project and is analyzed as a safety concern in the Traffic and Transportation section of the FSA/DEIS/FEIS. In that section, the BLM and CEC staff recommended Conditions of Certification Mitigation Measures TRANS-3 and TRANS-4 ~~would~~ to lessen the effects of glare. The FSA/DEIS/FEIS visual analysis concludes that even with the incorporation of these conditions, glare from the ISEGS project would dominate the view, would alter the character of the view, and could detract from the public's ability to enjoy views.

Additionally, light pollution from nighttime construction and permanent FAA-required safety lighting would impact night sky views, particularly from the Mojave National Preserve. ~~BLM and CEC staff recommended Condition of Certification, Mitigation Measure VIS-4,4 which would require that lighting be shielded and directed downward (with the exception of FAA-required safety lighting) and would mitigate/lessen the impact to night sky views from the Mojave National Preserve to less than significant levels; however, FAA safety lighting would result in an adverse and unavoidable impact on nighttime views from the Mojave National Preserve.~~

Compliance with Local Laws, Ordinances, and Regulations

The BLM and CEC staff concluded that the project would not comply with three applicable goals and policies of San Bernardino County as stated in the San Bernardino County General Plan Conservation and Open Space Element. The goals and policies with which the ISEGS project would conflict are:

- Conservation Element Goal D/CO 1, which calls for preservation of the unique environmental features and natural resources of the Desert Region, including scenic vistas
- Open Space Element Goal OS 5 and Policy OS 5.2, which states that the county will maintain and enhance the visual quality of county scenic routes and requires that development along scenic routes demonstrate compatibility with existing scenic resources through a visual analysis

1 Closure and Decommissioning

2 | When ISEGS is no longer in use, the applicant will decommission the project as ~~outlined~~ outlined in the Draft Closure,
3 Revegetation, and Rehabilitation Plan. Original contours will be restored and the site will be revegetated; however,
4 given the difficulty of revegetating in an arid region and given the prominent color contrast between graded, disturbed
5 soils and undisturbed soils in the vicinity, decommissioning of the project and visual recovery would likely occur over
6 a long period of time.

8 3.2.4.4 Conditions of Certification/Mitigation Measures

9
10 | The ISEGS FSA Addendum recommends that the ~~following~~ Conditions of Certification described below be required
11 by the CEC ~~and the BLM~~ to lessen impacts to ~~noise-visual resources~~ if the project is approved. The BLM
12 recommends the same Mitigation Measures in the FEIS.

13
14 VIS-1. The project owner will treat the surfaces of all project structures and buildings visible to the public such that (a)
15 their colors minimize visual intrusion and contrast by blending with the existing tan and brown color of the
16 surrounding landscape, (b) their colors and finishing do not create excessive glare, and (c) their colors and finishes
17 are consistent with local policies and ordinances. The transmission line conductors will be non-specular and non-
18 reflective, and the insulators will be non-reflective and non-refractive.

19
20 This mitigation measure also outlines the verification process to ensure that the measure is followed and to document
21 its success.

22
23 VIS-2. At the request of and in consultation with BLM's Authorized Officer, the CEC's Compliance Project Manager
24 (CPM), and the golf course owner, the project owner will prepare a perimeter landscape screening plan to reduce the
25 visibility of the proposed ISEGS project as seen from the golf course. The intent of the plan will be to provide
26 screening of the power project, particularly the mirror fields, while retaining as much of the scenic portion of the
27 overall views of Ivanpah Valley and Clark Mountains as feasible. The design approach will be developed with prior
28 consultation with the golf course owner, and implemented only at the golf course owner's request. The project owner
29 will submit to BLM's Authorized Officer and CPM for review and approval, and simultaneously to the golf course
30 owner for review and comment, a preliminary conceptual landscaping plan whose objective is to provide an attractive
31 visual screen to views of the ISEGS project mirror fields. Upon approval by BLM's Authorized Officer, the CPM, and
32 the golf course owner, the project owner will submit to BLM's Authorized Officer and the CPM for review and
33 approval, and simultaneously to the golf course owner for review and comment, a landscaping plan the proper
34 implementation of which will satisfy these requirements. The plan will include:

- 35
36 A. A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan will demonstrate how the
37 requirements stated above will be met. The plan will provide a detailed installation schedule demonstrating
38 installation of as much of the landscaping as early in the construction process as is feasible in coordination
39 with project construction.
- 40 B. A list (prepared by a qualified professional arborist familiar with local growing conditions) of proposed
41 species, specifying installation sizes, growth rates, expected time to maturity, expected size at five years
42 and at maturity, spacing, number, availability, and a discussion of the suitability of the plants for the site
43 conditions and mitigation objectives, with the objective of providing the widest possible range of species
44 from which to choose.
- 45 C. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual
46 debris removal for the life of the project.
- 47 D. A procedure for monitoring for and replacement of unsuccessful planting for the life of the project.
- 48 E. One set each for BLM's Authorized Officer and the CPM of 11-inch-by-17-inch color photo simulations of the
49 proposed landscaping at five years and 20 years after planting, as viewed from adjoining segments of I-15.

1
2 This plan will not be implemented until the project owner receives final approval from BLM's Authorized Officer and
3 the CPM.

4
5 This mitigation measure also outlines the verification process to ensure that the measure is followed and to document
6 its success.

7
8 VIS-3. The project owner will revegetate disturbed soil areas to the greatest practical extent, as described in
9 Condition of Certification BIO-14/Mitigation Measure BIO-14. To address specifically visual concerns, the required
10 Closure, Revegetation, and Rehabilitation Plan will include reclamation of the area of disturbed soils used for
11 laydown, project construction, and siting of the substation and other ancillary operation and support structures.

12
13 For verification of this measure, the ISEGS document CEC refers to Certificate of Certification BIO-14 and the BLM
14 refers to Mitigation Measure BIO-14.

15
16 VIS-4. To the extent feasible, consistent with safety and security considerations, the project owner will design and
17 install all permanent exterior lighting and all temporary construction lighting such that (a) lamps and reflectors are not
18 visible from beyond the project site, (b) lighting does not cause excessive reflected glare, (c) direct lighting does not
19 illuminate the nighttime sky, except for required FAA aircraft safety lighting, (d) illumination of the project and its
20 immediate vicinity is minimized, and (e) the plan complies with local policies and ordinances. The project owner will
21 submit to BLM's Authorized Officer and the CPM for review and approval, and simultaneously to the County of San
22 Bernardino for review and comment, a lighting mitigation plan that includes the following:

- 23
24 A. Location and direction of light fixtures will take the lighting mitigation requirements into account.
25 B. Lighting design will consider setbacks of the project features from the site boundary to aid in satisfying the
26 lighting mitigation requirements.
27 C. Lighting will incorporate fixture hoods/shielding, with light directed downward or toward the area to be
28 illuminated.
29 D. Light fixtures that are visible from beyond the project boundary will have cutoff angles that are sufficient to
30 prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for
31 security.
32 E. All lighting will be of minimum necessary brightness consistent with operation safety and security.
33 F. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) will
34 have (in addition to hoods) switches, time switches, or motion detectors so that the lights operate only when
35 the area is occupied.

36
37 This mitigation measure also outlines the verification process to ensure that the measure is followed and to document
38 its success.

39 40 **3.2.5 Combined Impact of EITP and ISEGS**

41
42 The CEQA and NEPA EITP and ISEGS impact analyses for visual resources were based on similar significance
43 criteria that evaluated to what extent the proposed projects would impact scenic vistas, impact views from designated
44 scenic highways, degrade the existing visual character of the surrounding landscape, and introduce new sources of
45 light and glare.
46

Scenic Vistas

Both the EITP and the ISEGS documents state that there are no designated scenic vistas in the Ivanpah and Eldorado valleys. However, in the ISEGS documents, the CEC and the BLM considered viewpoints within the Clark Mountains in the Stateline Wilderness Area and viewpoints within the Mojave National Preserve equivalent to designated scenic vistas due to high recreational use. Additionally, BLM stated that views of the Clark Mountains from I-15 could be considered a designated scenic vista in light of the county scenic highway designation for I-15. The CEC and the BLM concluded that from these viewpoints, significant and unavoidable impacts would occur due to contrast introduced by the ISEGS project.

The CPUC and the BLM concluded that impacts from the EITP would be less than significant under this criterion and would be inconsequential when combined with the impacts of the ISEGS project. The EITP primarily consists of upgrading a single-circuit 115-kV transmission line to a double-circuit 230-kV transmission line; the visual impacts of such an upgrade would be incremental and less than significant. The component of the EITP that would result in the greatest level of visual contrast is the Ivanpah Substation. If the Ivanpah Substation and the ISEGS project were both constructed, the Ivanpah Substation would be located within the ISEGS project layout. The Ivanpah Substation would amplify the effect of the ISEGS project, but would be a less dominant visual element in the viewshed compared with the thousands of mirror arrays and the three 459-foot-tall solar collectors. The combined effect would be incrementally more than the impact of the ISEGS project alone.

Scenic Highways

Both the EITP and the ISEGS documents state that there are no designated scenic highways in the Ivanpah and Eldorado valleys that would have views of either project; therefore, there is no impact under this criteria.

Degrade Existing Visual Character

Both the EITP and the ISEGS documents analyzed impacts on visual resources using the BLM VRM methodology or a similar equivalent (in the case of the CEC documents). In the ISEGS documents, the CEC and the BLM determined that the ISEGS project would result in a significant or adverse impact to middleground distance viewers on I-15, in the Clark Mountains within the Mojave National Preserve, and within the Stateline Umberci Mine and the vicinity.

Because the EITP would constitute primarily the upgrading of a single-circuit 115-kV transmission line to a double-circuit 230-kV transmission line; the visual impacts of the project would be largely incremental. Therefore, the impact would be considered potentially significant only for the most sensitive viewing locations; in the EITP analysis the Desert Oasis Apartment Complex is considered the viewing location with the highest degree of sensitivity. However, the ISEGS project would not be visible from this location. Therefore, there is no combined impact.

The Ivanpah Substation and portions of the upgraded transmission line would be visible with the ISEGS project in middleground views from I-15, views in the Clark Mountains within the Mojave National Preserve and within the Stateline Umberci Mine and the vicinity. As noted above, if the Ivanpah Substation and the ISEGS project were both constructed, the Ivanpah Substation would be located within the ISEGS project layout. Therefore, the Ivanpah Substation would amplify the effect of the ISEGS project, but would be a less dominant visual element in the viewshed compared with the thousands of mirror arrays and the three 459-foot-tall solar collectors. The combined effect would be incrementally more than the impact of the ISEGS project alone.

Light and Glare

The EITP and the ISEGS project combined would result in a less than significant impact due to the introduction of new sources of glare. The EITP would be constructed of non-speculative materials and therefore would not introduce a new source of glare. Although glare is considered a major issue of concern for the ISEGS project, MMs TRANS-3 and TRANS-4 would lessen the effects of glare for the ISEGS project. Because EITP would not introduce a source of

1 glare and because the ISEGS project would result in a less than significant impact due to the introduction of glare,
2 the EITP and ISEGS combined would result in a less than significant impact due to the introduction of glare.
3

4 Lighting requirements for the EITP and ISEGS would result in a significant impact on views from the MNP. Lighting
5 for the EITP would only be installed for the proposed Ivanpah Substation, would be operated manually and would be
6 directed downward and shielded to eliminate off-site light spill (APM AES-8). The EITP would not contribute to this
7 significant impact. However, light pollution from nighttime construction and permanent FAA-required safety lighting
8 for the ISEGS project would impact night sky views, particularly from the Mojave National Preserve. Mitigation
9 Measure VIS-4 would require that lighting be shielded and directed downward (with the exception of FAA-required
10 safety lighting) and would lessen the impact to night sky views from the Mojave National Preserve; however, FAA
11 safety lighting for the ISEGS project would result in an adverse and unavoidable impact on nighttime views from the
12 Mojave National Preserve. Although the EITP would not result in an impact due to the introduction of a new source of
13 light, because the ISEGS project would result in a significant impact on views from the MNP due to the introduction of
14 new sources of light, the EITP and ISEGS combined would result in a significant impact due to the introduction of
15 light.

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