



ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER

MINIMUM REQUIREMENTS DECISION GUIDE WORKBOOK

"...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act..."

-- The Wilderness Act of 1964

Project Title: SCE Lugo-Victorville Remedial Action Scheme (LVRAS) Project

MRDG Step 1: Determination

Determine if Administrative Action is Necessary

Description of the Situation

What is the situation that may prompt administrative action?

Southern California Edison (SCE) operates a 500kV transmission line from its substations Eldorado to Lugo (southwesterly direction), then Lugo to Mohave (easterly direction). These transmission lines are part of SCE's larger electrical grid. SCE seeks to upgrade its transmission facilities to prevent thermal overloading as the system is interconnected and integrated with multiple renewable generation projects in eastern California and Southern Nevada. The existing transmission line corridor crosses 84 miles of public and private lands, of which 51 miles traverse Mojave National Preserve, a unit of the National Park Service. SCE's transmission facilities are installed within a 180 foot-wide right-of-way corridor. An access road follows the length of the corridor, with spur roads connecting it to each tower. A spur road leading to one of the towers, #M107-T1 at point 3054, on the 500kV transmission line crosses into designated wilderness for approximately 0.17 mile. SCE will need to transport personnel and heavy equipment to the tower to complete installation of the new system.

Options Outside of Wilderness

Can action be taken outside of wilderness that adequately addresses the situation?

YES

NO

EXPLAIN & COMPLETE STEP 1 OF THE MRDG

Explain:

SCE's Eldorado-Lugo & Lugo-Mohave 500kV transmission lines already exist in Mojave National Preserve; the lines, towers, and access and spur roads pre-date the 1994 designation of Mojave Wilderness. There is no other location available to upgrade these facilities outside of wilderness.

Criteria for Determining Necessity

Is action necessary to meet any of the criteria below?

A. Valid Existing Rights or Special Provisions of Wilderness Legislation

*Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that **requires** action? Cite law and section.*

YES

NO

Explain:

The Wilderness Act prohibits installations in wilderness. There is no special provision that addresses existing electric transmission lines.

B. Requirements of Other Legislation

Is action necessary to meet the requirements of other federal laws? Cite law and section.

YES

NO

Explain:

The California Desert Protection Act of 1994 protects Southern California Edison's right-of-way to operate, maintain, repair, and replace the Eldorado-Lugo and Mohave-Lugo transmission lines (PL 103-433 §511(a)).

C. Wilderness Character

Is action necessary to preserve one or more of the five qualities of wilderness character?

UNTRAMMELED

YES

NO

Explain:

The LVRAS project would reduce the potential for thermal overloading, electrical fire, and firefighting activity and associated evidence on the landscape.

UNDEVELOPED

YES

NO

Explain:

The LVRAS project would not affect the undeveloped character of wilderness over the long term.

NATURAL

YES

NO

Explain:

The LVRAS project would protect the natural character of wilderness by deterring the risk of thermal overloading and associated electrical fire adjacent to and potentially in wilderness.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

YES

NO

Explain:

The transport of heavy construction equipment and multiple work crews in wilderness will disrupt opportunities for solitude or primitive and unconfined recreation.

OTHER FEATURES OF VALUE

YES

NO

Explain:

Other Features of Value have not been identified for the Mojave Wilderness.

Step 1 Determination

Is administrative action necessary in wilderness?

Criteria for Determining Necessity

- A. Existing Rights or Special Provisions
- B. Requirements of Other Legislation
- C. Wilderness Character
 - Untrammeled
 - Undeveloped
 - Natural
 - Solitude/Primitive/Unconfined
 - Other Features of Value

Summary Responses

Action IS NOT necessary to meet this criterion.

Action IS necessary to meet this criterion.

Action IS NOT necessary to meet this criterion.

Action IS NOT necessary to meet this criterion.

Action IS NOT necessary to meet this criterion.

Action IS NOT necessary to meet this criterion.

Action IS NOT necessary to meet this criterion.

Is administrative action necessary in wilderness?

YES

EXPLAIN & PROCEED TO STEP 2 OF THE MRDG

NO

Explain:

SCE held a right-of-way grant from the Bureau of Land Management for its Eldorado-Lugo & Lugo-Mohave 500kV transmission line until it expired, and has applied for a right-of-way permit from the National Park Service to continue its operation, maintenance, and repair. The ROW access and spur roads were constructed specifically for the transmission line facilities. The spur road to tower M107-T1 at point 3054 is the existing route used by SCE to inspect and monitor the Eldorado-Lugo & Lugo-Mohave 500kV transmission lines.

MRDG Step 2

Determine the Minimum Activity

Other Direction

Is there "special provisions" language in legislation (or other Congressional direction) that explicitly **allows** consideration of a use otherwise prohibited by Section 4(c)?

AND/OR

Has the issue been addressed in agency policy, management plans, species recovery plans, or agreements with other agencies or partners?

YES

DESCRIBE OTHER DIRECTION

NO

Describe Other Direction:

Southern California Edison's existing rights for its Eldorado-Lugo & Lugo-Mohave 500kV Transmission Line are specifically protected in the 1994 California Desert Protection Act, PL 103-433 Title V, section 511. For SCE to continue operation, maintenance, and repair of these facilities, the use of the spur road crossing wilderness to tower M107-T1 at point 3054 must be considered.

Time Constraints

What, if any, are the time constraints that may affect the action?

Desert bighorn lambs are usually born in January-June, with the majority of births in February-April. Avian nesting season falls March 1 through September 15. Presence/absence surveys must be completed; verification of no active nests would allow construction to be carried out during nesting season.

Components of the Action

What are the discrete components or phases of the action?

| | |
|-------------|--|
| Component X | <i>Example: Transportation of personnel to the project site</i> |
| Component 1 | Transportation of crews and construction equipment to and from the Lugo-Victorville 500kV transmission line. |
| Component 2 | Remove existing OHGW transmission wire and replace with OPGW, ADSS, and OFNR. |
| Component 3 | Install barriers at points of wilderness access of the spur road to deter casual motorized use. |
| Component 4 | Decrease risk of thermal overloading along 500kV transmission line. |
| Component 5 | |
| Component 6 | |
| Component 7 | |
| Component 8 | |
| Component 9 | |

Proceed to the alternatives.

Refer to the [MRDG Instructions](#) regarding alternatives and the effects to each of the comparison criteria.

MRDG Step 2: Alternatives

Alternative 1: No Action

Description of the Alternative

What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

Under No Action, the spur road to tower #M107-T1 at point 3054 would not be used for SCE's LVRAS project. If SCE is not able to complete LVRAS construction without using this spur road, they would not upgrade their communications lines along the Eldorado-Lugo & Lugo-Mohave 500kV transmission lines. The potential for thermal overloading of the grid would increase.

Component Activities

How will each of the components of the action be performed under this alternative?

| | Component of the Action | Activity for this Alternative |
|---|--|---|
| X | <i>Example: Transportation of personnel to the project site</i> | <i>Example: Personnel will travel by horseback</i> |
| 1 | Transportation of crews and construction equipment to and from the Lugo-Victorville 500kV transmission line. | Crews and construction equipment would not be transported to the transmission line. |
| 2 | Remove existing OHGW transmission wire and replace with OPGW, ADSS, and OFNR. | OHGW would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. |
| 3 | Install barriers at points of wilderness access of the spur road to deter casual motorized use. | No barriers will be installed; the spur road into wilderness would continue to be open to casual motorized use. |
| 4 | Decrease risk of thermal overloading along 500kV transmission line. | The risk of thermal overloading is likely to increase with existing equipment on the lines. |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |

Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|--------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment would not be transported to the transmission line. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | OHWG would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | No barriers will be installed; the spur road into wilderness would continue to be open to casual motor vehicle use. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4 | The risk of thermal overloading is likely to increase with existing equipment on the lines. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 0 | 2 | NE |
| Untrammed Total Rating | | -2 | | |

Explain:

No change due to construction but the spur road in wilderness would continue to be open to casual motor vehicle use, therefore the potential for increased trammel is greater. No Action increases the risk of thermal overloading, increased potential for fire and increased trammel from ensuing firefighting operations.

UNDEVELOPED

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|----------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | | | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment would not be transported to the transmission line. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | OHGW would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | No barriers will be installed; the spur road into wilderness would continue to be open to casual motor vehicle use. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading is likely to increase with existing equipment on the lines. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | <input type="checkbox"/> 0 | <input type="checkbox"/> 2 | <input type="checkbox"/> NE |
| Undeveloped Total Rating | | -2 | | |

Explain:

No change due to construction but the spur road in wilderness would continue to be open to casual motor vehicle use. The amount of development remains unchanged, but invites motor vehicle use in wilderness. No Action increases the risk of thermal overloading, increased potential for fire and consequentially increased potential for firefighting operations. The latter would not be a permanent development but would be considered increased development in wilderness for the duration of any fire and post-fire rehabilitation and restoration.

NATURAL

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|----------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | | | |
| 1 | Crews and construction equipment would not be transported to the transmission line. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | OHGW would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | No barriers will be installed; the spur road into wilderness would continue to be open to casual motor vehicle use. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading is likely to increase with existing equipment on the lines. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | <input type="checkbox"/> 0 | <input type="checkbox"/> 2 | <input type="checkbox"/> NE |
| Natural Total Rating | | -2 | | |

Explain:

No change due to construction but the spur road in wilderness would continue to be open to casual motor vehicle use. The continued presence of motor vehicle use diminishes the natural character of wilderness. No Action increases the risk of thermal overloading, increased potential for fire and consequentially increased potential for firefighting operations. This would diminish the natural character of wilderness, as well.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|----------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | | | |
| 1 | Crews and construction equipment would not be transported to the transmission line. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | OHGW would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | No barriers will be installed; the spur road into wilderness would continue to be open to casual motor vehicle use. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading is likely to increase with existing equipment on the lines. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | <input type="checkbox"/> 0 | <input type="checkbox"/> 2 | <input type="checkbox"/> NE |
| Solitude or Primitive & Unconfined Recreation Total Rating | | -2 | | |

Explain:

No change due to construction but the spur road in wilderness would continue to be open to casual motor vehicle use. The continued presence of motor vehicle use has negative impacts to the solitude or primitive and unconfined recreation of wilderness. No Action also increases the risk of thermal overloading, increased potential for fire and consequentially increased potential for firefighting operations. All of these factors would diminish the solitude or primitive and unconfined recreation of wilderness, as well.

OTHER FEATURES OF VALUE

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|--|----------------------------|----------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | | | |
| 1 | Crews and construction equipment would not be transported to the transmission line. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | OHGW would remain intact and operational. OPGW, ADSS, and OFNR will not be installed. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | No barriers will be installed; the spur road into wilderness would continue to be open to casual m | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading is likely to increase with existing equipment on the lines. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | <input type="checkbox"/> 0 | <input type="checkbox"/> 0 | <input type="checkbox"/> NE |
| Other Features of Value Total Rating | | 0 | | |

Explain:

No Other Features of Value have been identified for the Mojave Wilderness.

Summary Ratings for Alternative 1

| Wilderness Character | |
|---|-----------|
| Untrammeled | -2 |
| Undeveloped | -2 |
| Natural | -2 |
| Solitude or Primitive & Unconfined Recreation | -2 |
| Other Features of Value | 0 |
| Wilderness Character Summary Rating | -8 |

Project Title: SCE Lugo-Victorville Remedial Action Scheme (LVRAS) Project

MRDG Step 2: Alternatives

Alternative 2: Use of Spur Road in Wilderness to Replace OHGW w/OPGW at M107-T1 Tower

Description of the Alternative

What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

Southern California Edison Company plans to replace and upgrade existing OHGW overhead wire with OPGW, OFNR cable and ADSS fiber optic cable. This project, the Las Vegas-Victorville Remedial Action Scheme or LVRAS, crosses Mojave National Preserve for X miles. The route to Tower #M107-T1 at point 3054 goes from the ROW access road to a spur road that crosses 0.17 miles through wilderness. The towers and roads were constructed and installed prior to 1994, when the California Desert Protection Act was enacted and the Mojave Wilderness designated. At this point in the transmission line -- #3054, Tower M107-T1 -- the line shifts direction. The change in angle increases the risk of the cable slipping out of the roller at the top of the tower. Installation personnel and associated heavy construction equipment must be available at the tower to ensure the cable is securely fed through the roller. Both will gain access to the tower via the existing spur road, which follows the shallowest slope possible to reach tower #3054. The terrain on which the tower sits has a vertical drop too steep for vehicular traffic. Use of the existing spur road is the most efficient option for heavy construction equipment to access the tower and will not result in any new disturbance to the existing topography or terrain of Jackass Canyon.

Component Activities

How will each of the components of the action be performed under this alternative?

| Component of the Action | Activity for this Alternative |
|--|--|
| X <i>Example: Transportation of personnel to the project site</i> | <i>Example: Personnel will travel by horseback</i> |
| 1 Transportation of crews and construction equipment to and from the Lugo-Victorville 500kV transmission line. | Crews and construction equipment will be transported along existing an spur road within Mojave Wilderness Area to tower 3054. |
| 2 Remove existing OHGW transmission wire and replace with OPGW, ADSS, and OFNR. | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install new telecommunication wire. |
| 3 Install barriers at points of wilderness access of the spur road to deter casual motorized use. | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the pipe. SCE would continue to have access; the general public would be |
| 4 Decrease risk of thermal overloading along 500kV transmission line. | The risk of thermal overloading will decrease with the installation of upgraded materials and equipment on the transmission lines. |
| 5 | |
| 6 | |
| 7 | + |
| 8 | |
| 9 | |

Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|-------------------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment will be transported along existing an spur road within Mojave | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install ne | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3 | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | The risk of thermal overloading will decrease with the installation of upgraded materials and equ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 2 | 1 | NE |
| Untrammeled Total Rating | | 1 | | |

Explain:

Crew and equipment transport on existing spur road will not increase trammel in wilderness. Crews will operate heavy construction equipment at tower M107-T1, point 3054, which is outside of wilderness. Barriers that deter casual motor vehicle use will reduce trammel of wilderness, as will lowered risk of thermal overloading and associated fires and firefighting response.

UNDEVELOPED

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|-------------------------------------|--------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment will be transported along existing an spur road within Mojave | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install ne | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading will decrease with the installation of upgraded materials and equ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 1 | 0 | NE |
| Undeveloped Total Rating | | 1 | | |

Explain:

Crew and equipment transport on existing spur road will not increase development in wilderness. Crews will operate heavy construction equipment at tower M107-T1, point 3054, which is outside of wilderness. Barriers that deter casual motor vehicle use will not affect the undeveloped character of wilderness. Lowered risk of thermal overloading and associated fires and firefighting response reduces the potential for increased development associated with firefighting efforts.

NATURAL

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|-------------------------------------|--------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment will be transported along existing an spur road within Mojave | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install ne | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | The risk of thermal overloading will decrease with the installation of upgraded materials and equ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 2 | 0 | NE |
| Natural Total Rating | | 2 | | |

Explain:

Crew and equipment transport on existing spur road will not increase or diminish the natural character of wilderness. Crews will operate heavy construction equipment at tower M107-T1, point 3054, which is outside of wilderness. Barriers that deter casual motor vehicle use will hopefully reduce, but is not expected to eliminate, motor vehicle use in wilderness; this may improve the natural character of wilderness. Lowered risk of thermal overloading, associated fires and firefighting response reduces the potential for anthropogenic intrusion to the wilderness' natural character.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|--------------------------|-------------------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment will be transported along existing an spur road within Mojave | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2 | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install ne | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3 | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading will decrease with the installation of upgraded materials and equ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 0 | 2 | NE |
| Solitude or Primitive & Unconfined Recreation Total Rating | | -2 | | |

Explain:

Crew and equipment transport on existing spur road will not increase development in wilderness. Crews will operate heavy construction equipment at tower M107-T1, point 3054, which is outside of wilderness. Barriers that deter casual motor vehicle use will not affect the undeveloped character of wilderness. Lowered risk of thermal overloading and associated fires and firefighting response reduces the potential for increased development associated with firefighting efforts.

OTHER FEATURES OF VALUE

| Component Activity for this Alternative | | Positive | Negative | No Effect |
|---|---|--------------------------|--------------------------|-------------------------------------|
| X | <i>Example: Personnel will travel by horseback</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 1 | Crews and construction equipment will be transported along existing an spur road within Mojave | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2 | Crews will operate heavy construction equipment and motor vehicles at tower #3054 to install ne | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3 | Barriers can be installed by burying PVC pipe, then placing wilderness carsonite markers in the | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4 | The risk of thermal overloading will decrease with the installation of upgraded materials and equ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | + | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Totals | | 0 | 0 | NE |
| Other Features of Value Total Rating | | 0 | | |

Explain:

No Other Features of Value have been identified for the Mojave Wilderness.

Summary Ratings for Alternative 2

| Wilderness Character | |
|---|----------|
| Untrammeled | 1 |
| Undeveloped | 1 |
| Natural | 2 |
| Solitude or Primitive & Unconfined Recreation | -2 |
| Other Features of Value | 0 |
| Wilderness Character Summary Rating | 2 |

MRDG Step 2: Alternatives Not Analyzed

Alternatives Not Analyzed

What alternatives were considered but not analyzed? Why were they not analyzed?

Alternatives Not Analyzed:

Construct New Spur Road to Tower M107-T1 – The existing spur road to tower M107-T1 follows the shortest distance with shallowest slope across the terrain surrounding the tower's location. The knob on which M107-T1 sits lies within the ROW corridor but has vertical sides that are too steep to sustain a spur road. There is no potential alternate route that does not cross into wilderness or at a shallow enough slope to accommodate vehicle use.

Use of Stock Animals on Access Roads - Upgrade and removal of the existing OHGW with OPGW without the use of motorized vehicles or mechanized transport to transport construction crews and construction equipment along the nine (9) existing access road segments within the Mojave Wilderness Area. Instead, stock animals would transport the construction crews. This would be infeasible as the construction equipment would be too heavy and cumbersome for stock animals to transport.

Complete Construction by Aerial Installation – Upgrade and removal of the existing OHGW with OPGW by aerial installation. At this point in the transmission line -- #3054, Tower M107-T1 -- the line shifts direction. The change in angle increases the risk of the cable slipping out of the roller at the top of the tower. Installation personnel and associated equipment (e.g., bucket cranes) must be available at the tower to ensure the cable is securely fed through the roller. Both will gain access to the tower via the existing spur road, which follows the shallowest slope possible to reach tower #3054. This option still requires motorized access to the tower via wilderness; therefore, its impacts are parallel to Alternative 2.

Gale 115/33 kV Scope of Work - Install microwave and associated terminal equipment at SCE's Gale Substation to create diverse route: 1) New microwave tower (180 feet on 40 feet x 40 feet base) within property boundary; 2) Extend substation fence to property line to enclose microwave tower; and 3) Pre-fab building to house microwave and microwave equipment. This option would require installation of additional antenna equipment on an existing microwave tower at the Kelso Communications Site in the Preserve. The proposed OPGW installation will optimize the technical configuration of SCE's telecommunication network; SCE determined the OPGW installation would provide superior reliability for the electrical grid to the Gale 115/33 kV option.

Other - Install microwave tower associated terminal equipment at new SCE communication sites located at the following 3rd party owned locations: Hector, Kelso, Turquoise Mtn. and Mountain Pass. These will create a diverse route to support the Lugo-Victorville SPS. 1) Pre-fab building (12 x 36 feet) to house microwave and terminal equipment. 2) Improve access roads. 3) Install microwave tower. 4) Will reside on 100 x 100-foot parcel. 5) Propane generator and tank. 6) Chainlink fence surrounding site. 7) Access to sites. The aforementioned Alternative costs were higher than the action alternatives (Alternatives 1, 2, and 3) and would cause more ground disturbance than the action alternatives due to the permanent structures that would be constructed.

Project Title: SCE Lugo-Victorville Remedial Action Scheme (LVRAS) Project

MRDG Step 2: Alternative Comparison

Alternative 1: No Action

Alternative 2: Use of Spur Road in Wilderness to Replace OHGW w/OPGW at M107-T1 Tower

Alternative 3: #REF!

Alternative 4: #REF!

| Wilderness Character | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 4 | |
|------------------------------------|---------------|----------|---------------|----------|---------------|----------|---------------|----------|
| | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative |
| Untrammeled | 0 | 2 | 2 | 1 | #REF! | #REF! | #REF! | #REF! |
| Undeveloped | 0 | 2 | 1 | 0 | #REF! | #REF! | #REF! | #REF! |
| Natural | 0 | 2 | 2 | 0 | #REF! | #REF! | #REF! | #REF! |
| Solitude/Primitive/Unconfined | 0 | 2 | 0 | 2 | #REF! | #REF! | #REF! | #REF! |
| Other Features of Value | 0 | 0 | 0 | 0 | #REF! | #REF! | #REF! | #REF! |
| Totals | 0 | 8 | 5 | 3 | #REF! | #REF! | #REF! | #REF! |
| Wilderness Character Rating | -8 | | 2 | | #REF! | | #REF! | |

Alternative 5: #REF!

Alternative 6: #REF!

Alternative 7: #REF!

Alternative 8: #REF!

| Wilderness Character | Alternative 5 | | Alternative 6 | | Alternative 7 | | Alternative 8 | |
|------------------------------------|---------------|----------|---------------|----------|---------------|----------|---------------|----------|
| | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative |
| Untrammeled | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Undeveloped | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Natural | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Solitude/Primitive/Unconfined | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Other Features of Value | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Totals | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! | #REF! |
| Wilderness Character Rating | #REF! | | #REF! | | #REF! | | #REF! | |

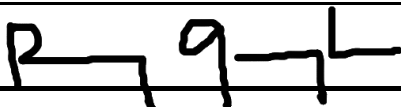
Approvals

Which of the prohibited uses found in Section 4(c) of the Wilderness Act are approved in the selected alternative and for what quantity?

| Prohibited Use | Quantity |
|---|--|
| <input checked="" type="checkbox"/> Mechanical Transport: | Heavy construction equipment |
| <input checked="" type="checkbox"/> Motorized Equipment: | Heavy construction equipment |
| <input checked="" type="checkbox"/> Motor Vehicles: | Transport for SCE and SCE contractor personnel |
| <input type="checkbox"/> Motorboats: | |
| <input type="checkbox"/> Landing of Aircraft: | |
| <input type="checkbox"/> Temporary Roads: | |
| <input type="checkbox"/> Structures: | |
| <input type="checkbox"/> Installations: | |

Record and report any authorizations of Wilderness Act Section 4(c) prohibited uses according to agency policies or guidance.

Refer to agency policies for the following signature authorities:

| | | | | |
|-------------|---|--|---|--|
| Prepared | Name | | Position | |
| | Rey Gonzales | | Sr. Project Manager, Environmental, SCE | |
| | Signature | | Date | |
| |  | | 3/13/2020 | |
| Recommended | Name | | Position | |
| | Danette Woo | | Environmental Compliance Specialist | |
| | Signature | | Date | |
| | <i>Danette Woo</i> | | 03/17/2020 | |
| Recommended | Name | | Position | |
| | Debra Hughson | | Chief, Science & Resource Stewardship | |
| | Signature | | Date | |
| | DEBRA HUGHSON <small>Digitally signed by DEBRA HUGHSON Date: 2020.03.27 13:17:09 -07'00'</small> | | | |
| Approved | Name | | Position | |
| | | | Superintendent | |
| | Signature | | Date | |
| | MICHAEL GAUTHIER <small>Digitally signed by MICHAEL GAUTHIER Date: 2020.03.27 13:23:37 -07'00'</small> | | | |