SAN DIEGO GAS & ELECTRIC COMPANY

MASTER SPECIAL USE PERMIT
CLEVELAND NATIONAL FOREST
ORANGE AND SAN DIEGO COUNTIES, CALIFORNIA
PRELIMINARY PLAN OF DEVELOPMENT

SEPTEMBER 2012

PREPARED BY:

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PREPARED FOR:

SDGE

A Sempra Energy utility℠

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1 – INTRODUCTION AND OVERVIEW OF PROPOSED ACTION

San Diego Gas & Electric Company (SDG&E) is submitting this Preliminary Plan of Development (POD) to the United States (U.S.) Forest Service (USFS), along with a Standard Form (SF) 299 Application for Transportation and Utility Systems and Facilities on Federal Lands, to combine over 70 existing use permits and easements for 69 kilovolt (kV) power line and 12 kV distribution line (collectively, electric line) facilities within the Cleveland National Forest (CNF) into one Master Special Use Permit (MSUP) to be issued by the USFS. In 2005, in consultation with the USFS, SDG&E submitted an initial application to obtain an MSUP. The purpose of the MSUP was to consolidate and memorialize SDG&E's rights and responsibilities in connection with the continued operation of its electric lines and other existing facilities located within the CNF. In 2009, the USFS circulated for public comment an Environmental Assessment (EA) prepared pursuant to the USFS' National Environmental Policy Act (NEPA) review process. In response to public comments received on that EA, the USFS determined that additional fire risk reduction measures within the CNF (including fire hardening) and additional undergrounding should be evaluated as part of the MSUP review process and that, as a result, an environmental impact statement (EIS) was required. SDG&E has been working with the USFS since that time to expand the scope of the proposed MSUP, as requested by the USFS, to include specific fire risk reduction measures. In addition, SDG&E has been analyzing the potential environmental effects of the proposed fire hardening activities and refining the scope where possible to avoid and minimize potential impacts. This Preliminary POD and the revised SF 299 Application provide an updated description and environmental analysis of the Proposed Action as it has evolved since 2005.

To incorporate the fire risk reduction measures recommended for inclusion, SDG&E has expanded the scope of the Proposed Action previously evaluated in the 2009 EA to include additional proposed activities beyond the administrative adoption of a consolidated MSUP. In addition to combining the previously issued use permits and easements for existing SDG&E facilities within the CNF into one MSUP, the Proposed Action as described in this Preliminary POD and revised SF 299 Application includes fire hardening along 11 existing 69 kV power lines and 12 kV distribution lines as well as the relocation and undergrounding of certain electric lines within the CNF. More specifically, the Proposed Action has been expanded to include:

- Consolidation of over 70 previously-issued special use permits and easements on lands within the administrative boundary[1] of the CNF into one MSUP to allow the continued maintenance and operation of more than approximately 50 miles of 69 kV power lines and 12 kV distribution lines and ancillary or appurtenant facilities (as described in Section 4.0.2 Installation of Other Facilities), as well as approximately 45 miles of existing access roads required to operate and maintain the existing electric lines located within the administrative boundary of the CNF

- Adoption of a Master Special Use Permit Operating Plan for SDG&E's existing facilities within the CNF

[1] The administrative boundary of the CNF includes only those lands under the jurisdiction of the USFS, and not the private lands adjacent to the CNF that are included within the Congressional boundary of the CNF.

- Replacement of approximately 1,025 existing wood utility poles with steel poles for five existing 69 kV power lines and six existing 12 kV distribution lines on lands within the administrative boundary of the CNF

- Undergrounding of approximately nine miles of existing electric lines and removal of the corresponding existing wood utility poles on lands within the administrative boundary of the CNF

Figure 1: Location Map shows the location of the Proposed Action; Attachment A: Detailed Route Maps includes detailed information for each electric line. The Master Special Use Authorization Operating Plan is included as Attachment B: MSUP Operating Plan.

The electric lines proposed to be replaced as part of the Proposed Action extend outside of CNF-administered lands into private and tribal lands, as well as other state- and federally administered lands. To facilitate environmental review and approval of associated activities along these portions of the electric lines by the appropriate agencies with jurisdiction in these areas, these activities are analyzed in this Preliminary POD as Connected Actions and Similar Actions as defined in NEPA. NEPA defines Connected Actions as actions that are closely related and therefore should be discussed in the same impact statement. NEPA further provides that actions are connected if they:

- automatically trigger other actions which may require an EIS
- cannot or will not proceed unless other actions are taken previously or simultaneously
- are interdependent parts of a larger action and depend on the larger action for their justification

Each of the 69 kV power line fire hardening projects are subject to review by the California Public Utilities Commission (CPUC) irrespective of whether the activity is taking place within or outside of the CNF. Relative to the Proposed Action, the 69 kV power line fire hardening projects outside the USFS-administrative boundary of the CNF are considered Connected Actions. These include replacement of approximately 1,011 existing wood utility poles with steel poles along the five existing 69 kV power lines at locations outside the administrative boundary of the CNF and the maintenance of approximately 0.9 mile of existing access roads required to operate and maintain the existing 69 kV power lines located outside of the CNF. Figure 1: Location Map shows the location of Connected Actions.

NEPA defines Similar Actions as "actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." Because the USFS may wish to analyze the 12 kV distribution line activities outside of the CNF due to their geographic proximity, those activities are included in this Preliminary POD as Similar Actions.

The Similar Actions include replacement of approximately 238 existing wood utility poles with steel poles along the six existing 12 kV distribution lines at locations outside the administrative boundary of the CNF, the undergrounding of approximately four miles of existing 12 kV distribution lines and removal of corresponding existing wood utility poles, and the maintenance of approximately 0.8 mile of existing access roads required to operate and maintain the existing

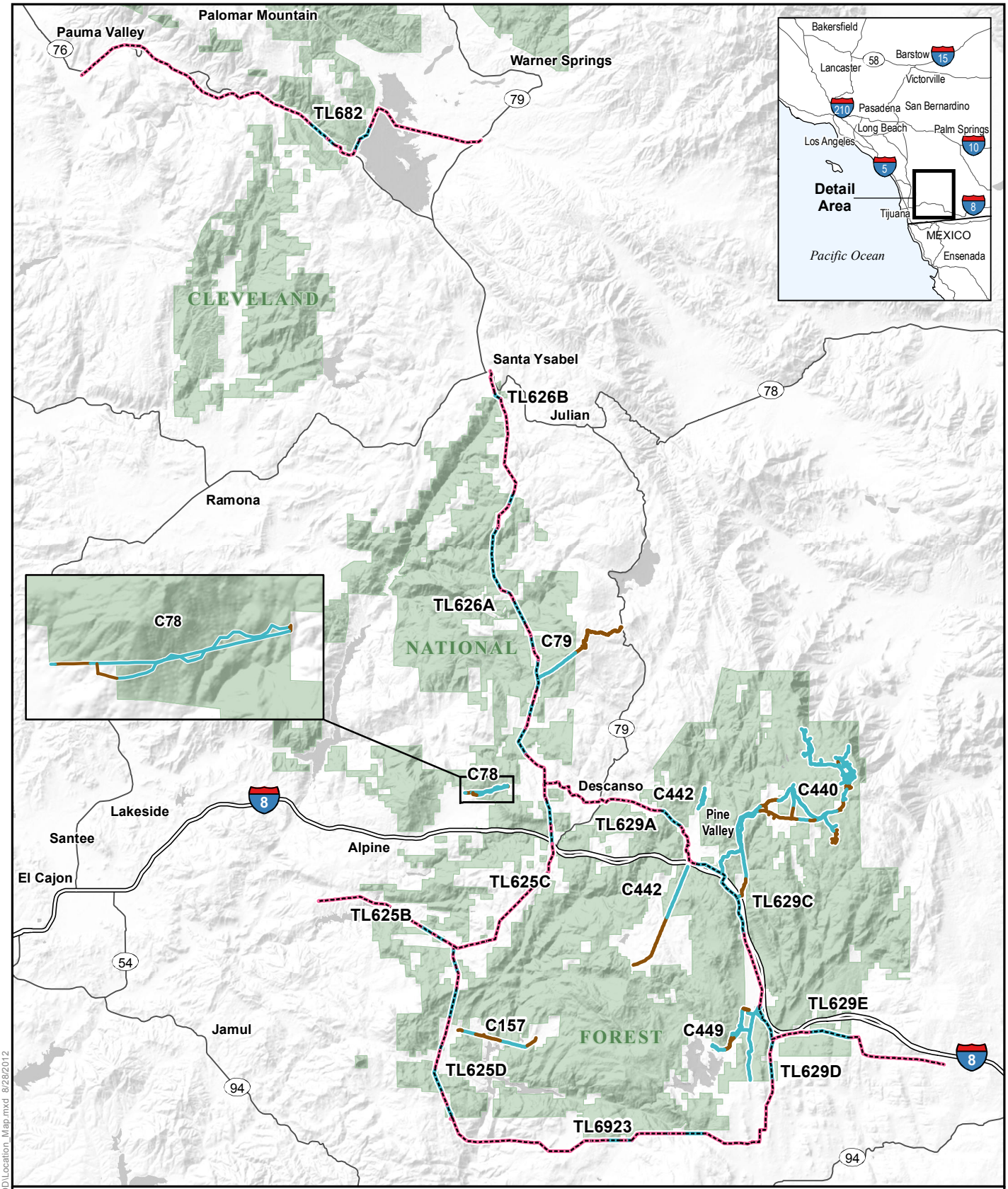

Figure 1: Location Map

CNF Preliminary Plan of Development

- Proposed Action
- Connected Actions
- Similar Actions
- *69 kV Power Line Shown with Dashed Line*
- United States Forest Service
- Interstate
- State Highway
- Lake/Reservoir

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1 inch = 6 miles

0 2 4 6 Miles

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Source: SDG&E, 2012; USFS, 2012; CPAD 1.7 GreenInfo Network, 2011

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distribution lines located outside of the CNF. Figure 1: Location Map shows the location of Similar Actions.

Notably, all of the power lines, distribution lines, and associated access roads included in the Proposed Action, as Connected Actions, and as Similar Actions are existing facilities that have been operated and maintained for decades. SDG&E currently operates and maintains these facilities consistent with SDG&E's standard protocols and procedures, including SDG&E's Natural Community Conservation Plan (NCCP). All aspects (construction, operation, and maintenance) of the Proposed Action, Connected Actions, and Similar Actions would comply with SDG&E's standard protocols and procedures, including the NCCP. The Proposed Action would not increase system capacity or open new areas to development, and there would be no growth-inducing impacts to the surrounding area as a result of the Proposed Action. SDG&E's operations and maintenance protocols and procedures have been incorporated into the design of the Proposed Action and compose the baseline from which environmental effects have been assessed.

During the MSUP review and approval process, SDG&E must continue to operate and maintain its existing facilities to ensure continued electric service and reliability. Operation and maintenance activities that would continue to occur during the pendency of the MSUP review and approval process may range from routine inspections and preventive maintenance to potential emergency repair or replacement work. Work conducted by SDG&E during the pendency of the MSUP review would comply with SDG&E's standard operation and maintenance practices and protocols, and would be subject to any required approvals or authorizations. Consistent with SDG&E's existing practice, SDG&E would continue to coordinate with and notify the USFS of work activities within the CNF.

This Preliminary POD includes the following sections:

- Purpose and Need
- Background
- Route Description
- Project Components
- Alternatives
- Right-of-Way
- Construction Activities
- Operation and Maintenance Activities
- Required Permits and Authorizations
- Preliminary Environmental Resource Evaluation

These sections describe the purpose of the Proposed Action, its physical setting, specific construction details and route locations for work being performed, potential alternatives considered by SDG&E in addition to the Proposed Action, and a preliminary evaluation of potential impacts to the environment that may result from construction as well as operation and maintenance of the power lines and distribution lines. Because the power lines, distribution lines, access roads, and other ancillary or appurtenant facilities (as described in Section 4.0.2 Installation of Other Facilities) included in the Proposed Action are existing facilities or would

be within existing rights-of-way (ROWs), and because the Proposed Action would not increase system capacity or open new areas to development, there would be no growth-inducing impacts to the surrounding area as a result of the Proposed Action.

2 – PURPOSE AND NEED

The previously circulated EA contained the following Purpose and Need for the Proposed Action:

> *The purpose of this proposal is to authorize the powerlines and associated facilities needed to continue electric service to a variety of users within and adjacent to the Cleveland National Forest through a Master Special Use Permit. This action is needed because the 70 individual permits or easements for the existing facilities have expired, and a permit is required for the continued occupancy and use of National Forest System lands. This action responds to the goals and objectives outlined in the Cleveland Forest Plan, and helps move the project area towards desired conditions described in that plan.*

This fundamental purpose of the Proposed Action remains unchanged. The Proposed Action is needed because the approximately 70 individual permits and easements for the existing facilities have lapsed, and a master permit would enable SDG&E to continue to operate and maintain its facilities within the CNF subject to uniform use restrictions and conditions. The Proposed Action has been designed consistent with the goals and objectives outlined in the Cleveland Forest Plan.

As previously described, the Proposed Action has been revised subsequent to the publication of the EA to include fire hardening activities along five existing 69 kV power lines and six existing 12 kV distribution lines, as well as the relocation and undergrounding of certain 12 kV distribution lines. These activities have been added to the Proposed Action as a result of public comments received during the EA review process as well as to continue implementing SDG&E's long-term fire hardening efforts. By incorporating these fire hardening activities, the Proposed Action would increase the fire safety and service reliability of the existing electric lines within and around the CNF. As described in Section 4 – Project Components, several key actions—including wood-to-steel pole conversion, single- to double-circuit conversion for two of the five Proposed Action 69 kV power lines, removal of portions of two 12 kV distribution lines, and undergrounding of portions of three 12 kV distribution lines and one 69 kV power line—are being proposed to improve their fire safety and service reliability. The Proposed Action would enable SDG&E to physically increase fire safety and service reliability of SDG&E 69 kV power lines and 12 kV distribution lines and facilities in and around the CNF, which includes areas that are subject to severe weather conditions—including extreme temperatures, high winds and ice—consistent with CPUC General Orders, North American Electric Reliability Corporation/Federal Energy Regulatory Commission (NERC/FERC) requirements, and SDG&E standards. Specifically, SDG&E is required to implement the Proposed Action to meet reliability requirements in accordance with CPUC General Order 95, which requires corrective actions for variable (non-immediate high to low) safety and/or reliability risks (e.g., High Risk Fire Areas). The Proposed Action is also required to meet California Independent System Operator (CAISO) Tariff provisions, which require operation and maintenance of facilities to avoid materially

adverse impacts on the CAISO-Controlled Grid. NERC Reliability Standards for the Bulk Electric Systems of North America and FERC Standards of Conduct for Transmission Providers (Order No. 717), which define reliability requirements for planning and operating electric systems in North America to ensure electric systems operate reliably, are also applicable to the Proposed Action. These standards would also be adhered to consistent with SDG&E's Written Procedures and Compliance Plan and all associated compliance controls and procedures. In addition, the Proposed Action would avoid and minimize potential environmental effects by maximizing use of existing SDG&E electric line alignments and access roads and by following SDG&E's robust program of environmental compliance practices and protocols. Specifically, the Proposed Action involves the replacement of existing facilities within existing 69 kV power line and 12 kV distribution facility corridors. As described in Section 10 – Preliminary Environmental Resource Evaluation, SDG&E has re-evaluated the potential environmental impacts that may result from the Proposed Action to support further NEPA review by the USFS. SDG&E has designed the Proposed Action to minimize electric line relocations—and the potential environmental impacts and safety risks that may arise from such relocations—by maximizing the use of existing roads and facility corridors. Wood-to-steel pole conversion would generally occur in close proximity to existing poles, and fly yards, staging areas, stringing sites, and other work areas would be placed, where possible, in previously disturbed areas to minimize impacts. SDG&E has also designed the Proposed Action to utilize existing access roads, where possible, improving them only as needed to perform safe and effective construction and operation and maintenance activities on the electric lines.

3 – ROUTE DESCRIPTION

The Proposed Action involves the replacement and operation and maintenance of SDG&E's electric lines and other facilities located within the USFS-administrative boundary for the CNF in the central portion of San Diego County, California. The Connected Actions and Similar Actions are located outside the USFS-administrative boundary for the CNF. The Proposed Action boundaries are approximately 4.5 miles north of the U.S.-Mexico border, 14.5 miles west of the Imperial County border, 8.5 miles south of the Riverside County border, and 14.5 miles east of the City of San Diego. Figure 1: Location Map displays the location of the Proposed Action, Connected Actions, and Similar Actions.

The Proposed Action includes activities planned for portions of five 69 kV power lines and six 12 kV distribution lines that traverse the CNF. The 69 kV power lines and 12 kV distribution lines included as part of the Proposed Action are divided into the following components:

- 69 kV Power Line (TL) 625 – approximately 22.5 miles in total length, with approximately 6.5 miles located within the CNF boundary and approximately 16 miles located outside the CNF boundary; runs from Loveland Substation east to Barrett Tap, from Barrett Tap east to Descanso Substation, and from Barrett Tap south to Barrett Substation.

- TL626 – approximately 18.8 miles in total length, with approximately 8.2 miles located within the CNF boundary and approximately 10.6 miles located outside the CNF boundary; runs from Santa Ysabel Substation south to Descanso Substation.

- TL629 – approximately 29.8 miles in total length, with approximately 9.6 miles located within the CNF boundary and approximately 20.2 miles located outside the CNF boundary; runs from Descanso Substation east to Glencliff Substation, from Glencliff Substation southeast to Cameron Tap, from Cameron Tap south to Cameron Substation, and from Cameron Tap east to Crestwood Substation.

- TL682 – approximately 20.2 miles in total length, with approximately 2.5 miles located within the CNF boundary and approximately 17.7 miles located outside the CNF boundary; runs from Rincon Substation east to Warners Substation.

- TL6923 – approximately 13.4 miles in total length, with approximately 1.7 miles located within the CNF boundary and approximately 11.7 miles located outside the CNF boundary; runs from Barrett Substation east to Cameron Substation.

- 12 kV Distribution Line or Circuit (C) 78 – approximately 1.8 miles in total length, with approximately 1.5 miles located within the CNF boundary and approximately 0.3 mile located outside the CNF boundary; runs from east of Viejas Reservation, east along Viejas Grade Road, to Via Arturo Road.

- C79 – approximately 2.2 miles in total length, with approximately 1.8 miles located within the CNF boundary and approximately 0.4 mile located outside the CNF boundary; runs from Boulder Creek Road east to the Cuyamaca Peak communication site.

- C157 – approximately 3.5 miles in total length, with approximately 1.8 miles located within the CNF boundary and approximately 1.7 miles located outside the CNF boundary; runs from Skye Valley Road, near Lyons Valley Road, east to Skye Valley Ranch.

- C440 – approximately 24.0 miles in total length, with approximately 17.7 miles located within the CNF boundary and approximately 6.3 miles located outside the CNF boundary; runs from Glencliff Substation northeast to Mount Laguna along Sunrise Highway.

- C442 – approximately 6.2 miles in total length, with approximately 3.7 miles located within the CNF boundary and approximately 2.5 miles located outside the CNF boundary; runs south from Pine Valley Road to Los Pinos Peak Forest Station and along Pine Creek Road south toward the community of Pine Valley.

- C449 – approximately 6.7 miles in total length, with approximately 5.8 miles located within the CNF boundary and approximately 0.9 mile located outside the CNF boundary; runs from Old Highway 80 south along Buckman Springs Road to Oak Drive and southwest along Morena Stokes Valley Road to Camp Morena.

All of these lines are located within existing ROWs. As previously noted, the Proposed Action includes only the portions of these lines that are within the administrative boundary of the CNF. Connected Actions and Similar Actions for 69 kV power lines and 12 kV distribution lines, respectively, are those actions taking place along these lines, and outside the administrative

boundary of the CNF, that SDG&E would undertake alongside the Proposed Action to reduce environmental impacts, the overall project time to completion, and total cost. The locations of these components are described in more detail in the following subsections.

3.0 69 KV POWER LINES

The Proposed Action involves work along the following five existing 69 kV power lines. Proposed activities on these lines outside of the CNF are analyzed as Connected Actions.

3.0.0 TL625

TL625 is located near the unincorporated communities of Alpine and Descanso in central San Diego County. As shown in Attachment A: Detailed Route Maps, TL625 consists of the following three segments:

- The Loveland Substation to Barrett Tap segment (TL625B) travels east out of Loveland Substation, located on Sequan Truck Trail, for approximately 4.5 miles along Loveland Reservoir and Japatul Road before entering the CNF southeast of the intersection of Japatul Road and Abrams Ridge Road. The line then continues approximately 0.3 mile southeast before crossing Japatul Road, after which it continues 0.3 mile southeast before exiting the CNF. The line then travels for approximately 0.1 mile through private land, re-enters the CNF near Japatul Road for approximately 0.4 mile, then exits the CNF and travels for approximately 0.5 mile southeast through private land before reaching Barrett Tap on Japatul Road.

- The Barrett Tap to Descanso Substation segment (TL625C) travels northeast from the Barrett Tap for approximately 1.3 miles through private land, enters the CNF for approximately 0.1 mile, then heads northeast along Japatul Valley Road for approximately 5.1 miles through private land, and re-enters the CNF near Interstate (I-) 8. From I-8, the line continues for approximately 0.5 mile through the CNF, exits the CNF for approximately 0.3 mile, and re-enters the CNF near Wildwood Glen Lane. From Wildwood Glen Lane, the line traverses the CNF for approximately 1 mile, exits for approximately 0.1 mile, and re-enters the CNF for approximately 0.1 mile near Viejas Grade Road, then travels approximately 0.5 mile north through private land before reaching the Descanso Substation located south of Oak Grove Drive at Boulder Creek Road.

- The Barrett Tap to Barrett Substation segment (TL625D) travels south from Barrett Tap for approximately 0.1 mile and enters the CNF. The line then travels approximately 0.2 mile south through the CNF, crosses Carveacre Road, and continues south for approximately 0.1 mile before exiting the CNF. The line leaves the CNF for approximately 0.3 mile and then re-enters the CNF between Carveacre Road and Spirit Trail. After re-entering the CNF, the line travels for approximately 0.3 mile, exits the CNF for approximately 0.1 mile, then re-enters the CNF northeast of the intersection of Carveacre Road and Fog Ridge and continues southeast through the CNF for approximately 0.2 mile. The line then exits the CNF and travels approximately 0.7 mile southwest through private land before re-entering the CNF near Forest Route 16S03. The

line then continues approximately 1.3 miles southwest from Forest Route 16S03, exits the CNF near Lyons Valley Road, continues for approximately 1.1 miles through private land, and re-enters the CNF near Lyons Valley Road for approximately 0.3 mile. The line then leaves the CNF for approximately 0.8 mile, re-enters the CNF west of the intersection of Skye Valley Road and Barrett Lake Road, and travels through the CNF for approximately 0.9 mile west of Barrett Lake. After crossing Forest Route 17S10 east of Barber Mountain, the line continues south for approximately 0.2 mile. The line then exits the CNF for approximately 0.5 mile, re-enters the CNF for approximately 0.5 mile near Turmeric Way, and then leaves the CNF and travels for approximately 0.1 mile to reach Barrett Substation, located north of Manzanita Way and east of Deerhorn Valley Road.

Approximately 6.5 miles of TL625 are included in the Proposed Action. Outside of the CNF, TL625 crosses approximately 16 miles of private land, state lands, and Bureau of Land Management (BLM)-administered land. Land uses along the TL625 route include agriculture, recreation, residences, the Loveland Reservoir, and the Descanso Detention Facility.

3.0.1 TL626

TL626 is located between the communities of Santa Ysabel and Descanso in central San Diego County. TL626 runs from Santa Ysabel Substation to Descanso Substation, as shown in Attachment A: Detailed Route Maps. For the Proposed Action, TL626 has been subdivided into two segments: TL626A and TL626B.

- From Santa Ysabel Substation—located less than approximately 0.1 mile north of State Route (SR-) 78 and approximately 0.2 mile east of SR-79—TL626B travels south for approximately 0.9 mile before entering the CNF west of Inaja Memorial Park. The line then travels for approximately 0.4 mile southeast through the CNF, leaves the CNF for approximately 4.1 miles, and re-enters the CNF for approximately 0.5 mile near Eagle Peak Road. The line continues south from Eagle Peak Road for approximately 1.0 mile before tapping into Boulder Creek Substation, where section TL626B terminates.

- TL626A then begins, heading south from Boulder Creek Substation for approximately 0.1 mile before entering the CNF. TL626A then continues through the CNF for approximately 2.6 miles and crosses Cedar Creek, Kelly Creek, and Boulder Creek Road. The line then leaves the CNF for approximately 0.3 mile near McCoy Ranch Road, re-enters the CNF for approximately 0.2 mile, crosses McCoy Ranch Road, leaves the CNF for approximately 0.3 mile, and re-enters the CNF near King Creek. The line then continues approximately 1.1 miles southeast through the CNF, exits the CNF for approximately 0.6 mile near the intersection of Tule Springs Road and Boulder Creek Road, and re-enters the CNF west of Boulder Creek Road. From Boulder Creek Road, the line travels for approximately 0.5 mile, leaves the CNF for approximately 0.6 mile, and re-enters and travels through the CNF for approximately 1.2 miles. The line then leaves the CNF near Forest Route 14S09, travels for approximately 0.6 mile, and re-enters the CNF near the intersection of Boulder Creek Road and Sherilton Valley Road for approximately 0.5 mile. The line then leaves the CNF and travels for approximately 0.5 mile before re-entering near the intersection of Boulder Creek Road and Echo Hills Road. From Echo Hills Road, the line travels through the CNF for approximately 1.2

miles before exiting the CNF and traveling for approximately 1.6 mile south to Descanso Substation.

Approximately 8.2 miles of TL626 are included in the Proposed Action. Outside of the CNF, TL626 crosses approximately 10.6 miles of private land. Land uses along the TL626 route include agriculture, commercial, recreation, and residences.

3.0.2 TL629

TL629 is located near the communities of Descanso, Guatay, and Pine Valley in central San Diego County. As shown in Attachment A: Detailed Route Maps, TL629 consists of the following four sections:

- The Descanso Substation to Glencliff Substation segment (TL629A) travels east from Descanso Substation for approximately 5.6 miles through private land and Cuyamaca Rancho State Park land before it enters the CNF east of the unincorporated community of Guatay. The line travels 1.2 miles southeast through the CNF along Old Highway 80, exits the CNF for approximately 1.9 miles, then re-enters the CNF south of the unincorporated community of Pine Valley. From Pine Valley, the line travels east between Old Highway 80 and I-8 for approximately 3.4 miles before crossing I-8. From I-8, the line travels southeast for approximately 1.2 miles before reaching Glencliff Substation, located in the CNF between Old Highway 80 and I-8.

- The Glencliff Substation to Cameron Tap segment (TL629C) travels southeast through the CNF from Glencliff Substation along Old Highway 80 for approximately 1.5 miles and exits the CNF for approximately 3.1 miles. The line re-enters the CNF west of I-8 and travels an additional 1.6 miles through the CNF to Cameron Tap, located south of the intersection of Old Highway 80 and I-8 at Kitchen Creek Road.

- The Cameron Tap to Cameron Substation segment (TL629D) travels south from Cameron Tap for approximately 0.4 mile before exiting the CNF. The line leaves the CNF for approximately 0.5 mile and re-enters the CNF near Cameron Truck Trail. The line then continues approximately 0.8 mile south, crosses Cameron Truck Trail, and exits the CNF near the intersection of Cameron Truck Trail and Hyde Park Lane. From Hyde Park Lane, the line continues south for approximately 3.0 miles through private land and BLM-administered land before entering Cameron Substation, located on Buckman Springs Road.

- The Cameron Tap to Crestwood Substation segment (TL629E) travels east from Cameron Tap for approximately 1.5 miles before entering the CNF near the intersection of Cameron Truck Trail and Old Highway 80. The line travels east through the CNF along I-8 for approximately 1.7 miles, crossing La Posta Road. From La Posta Road, the line exits the CNF for approximately 4.4 miles and travels through private land, BLM-administered land, and the Campo Indian Reservation before entering Crestwood Substation, located southwest of the Golden Acorn Casino and I-8.

Approximately 9.6 miles of TL629 crosses USFS-administered land. Outside of the CNF, TL629 crosses approximately 20.2 miles of Cuyamaca Rancho State Park land, tribal land, and private land. Land uses along the TL629 route include agriculture, commercial, recreation, residences, and the Campo Indian Reservation.

3.0.3 TL682

TL682 is located near the communities of Pauma Valley and Warner Springs in central San Diego County. TL682 runs from Rincon Substation to Warners Substation, as shown in Attachment A: Detailed Route Maps. From Rincon Substation, located southwest of Valley Center Road and south of SR-76, the line travels generally southeast along SR-76 for approximately 11 miles through private land and tribal land before entering the CNF west of Lake Henshaw. The line continues southeast along SR-76 through the CNF for approximately 0.9 mile, leaves the CNF for approximately 0.1 mile, re-enters the CNF for approximately 0.3 mile, then exits the CNF for approximately 0.4 mile. The line then crosses SR-76 and re-enters the CNF for approximately 0.1 mile, then exits the CNF for approximately 0.7 mile. The line re-enters the CNF near the intersection of East Grade Road and County Highway S7 and continues northeast along the western coast of Lake Henshaw for approximately 0.5 mile. The line then leaves the CNF for approximately 0.1 mile, re-enters the CNF and travels northeast for approximately 0.1 mile, before crossing Henshaw Truck Trail. From Henshaw Truck Trail, the line continues northeast for approximately 0.7 mile and then leaves the CNF. The line then follows the northern coast of Lake Henshaw and continues east for approximately 5.4 miles through private land before entering Warners Substation.

Approximately 2.5 miles of TL682 crosses USFS-administered land. Outside of the CNF, TL682 crosses approximately 17.7 miles of tribal land and private land. Land uses along the TL682 route include agriculture, recreation, residences, and the La Jolla Indian Reservation.

3.0.4 TL6923

TL6923 is located near the communities of Potrero and Campo in central San Diego County. TL6923 runs from Barrett Substation to Cameron Substation, as shown in Attachment A: Detailed Route Maps. From Barrett Substation, the line travels east for approximately 6.3 miles south of Barrett Lake, through private land and BLM-administered land. The line then travels approximately 1.5 miles along the boundary between the CNF and BLM-administered land, through private land for approximately 0.2 mile, then along the CNF boundary for another 0.2 mile, crossing Potrero Creek. The line then travels northeast for approximately 0.4 mile through private land, then traverses the CNF boundary for approximately 2.8 miles and crosses Hauser Creek before traveling approximately 2.1 miles to Cameron Substation.

Approximately 1.7 miles of TL6923 crosses USFS-administered land. Outside of the CNF, TL6923 crosses approximately 11.7 miles of private land. Land uses along the TL6923 route include agriculture, recreation, and residences.

3.1 12 KV DISTRIBUTION LINES

The Proposed Action involves work along the following six 12 kV distribution lines. Proposed activities on these lines outside of the CNF are analyzed as Similar Actions.

3.1.0 C78

C78 runs from approximately 400 feet east of the eastern border of the Viejas Reservation east along Viejas Grade Road to Via Arturo Road, as shown in Attachment A: Detailed Route Maps. C78 begins just east of the eastern border of the Viejas Reservation. From here, the line travels east for approximately 0.3 mile along the CNF boundary, enters the CNF and travels northeast approximately 1.5 miles along Viejas Grade Road, and then exits the CNF. The line then travels north for approximately 0.1 mile and terminates near the intersection of Via Arturo Road and Viejas Grade Road.

Approximately 1.5 miles of C78 crosses USFS-administered land. Outside of the CNF, C78 crosses approximately 0.3 mile of private land. Land uses along the C78 route include agriculture, recreation, and residences.

3.1.1 C79

C79 runs from Boulder Creek Road toward the Cuyamaca Peak Forest Station, as shown in Attachment A: Detailed Route Maps. From just southeast of Boulder Creek Road, the existing line travels for 0.1 mile, crosses Boulder Creek Road, and continues northeast for approximately 1.7 miles before exiting the CNF. After leaving the CNF, the line then continues for approximately 0.4 mile northeast through the Cuyamaca Rancho State Park to the Cuyamaca Peak Forest Station.

Approximately 1.8 miles of C79 crosses USFS-administered land. Outside of the CNF, C79 crosses approximately 0.4 mile within the Cuyamaca Rancho State Park. Land uses along the C79 route include recreation and the Cuyamaca Peak communication site.

3.1.2 C157

C157 runs from Skye Valley Road, just east of Lyons Valley Road, toward Skye Valley Ranch, as shown in Attachment A: Detailed Route Maps. The line travels northeast from Skye Valley Road for approximately 0.2 mile before entering the CNF. The line then travels for approximately 0.6 mile southeast through the CNF along Skye Valley Road. The line then exits the CNF and continues southeast for approximately 0.5 mile through private land before crossing Skye Valley Road. From Skye Valley Road, the line re-enters the CNF for approximately 0.1 mile, then leaves the CNF for approximately 0.5 mile and re-enters the CNF just east of Barrett Lake. From Barrett Lake, the line crosses Skye Valley Road and travels for approximately 1.1 miles southeast through the CNF. The line leaves the CNF and travels for approximately 0.5 mile northeast to terminate at Skye Valley Ranch.

Approximately 1.8 miles of C157 crosses USFS-administered land. Outside of the CNF, C157 crosses approximately 1.7 miles of private land. Land uses along the C157 route include agriculture, recreation, and the Camp Barrett Juvenile Correctional Facility.

3.1.3 C440

C440 runs from Glencliff Substation to Mount Laguna, as shown in Attachment A: Detailed Route Maps. The line starts at Glencliff Substation within the CNF, travels for approximately 0.1 mile east across I-8, and leaves the CNF on the eastern side of I-8. The line then travels

approximately 0.8 mile northeast through private land, re-enters the CNF, and travels for approximately 1.3 miles northwest until it crosses Sunrise Highway. From the Sunrise Highway crossing, the line continues north for approximately 1.3 miles, turns northeast for approximately 0.4 mile, crosses Sunrise Highway a second time, and continues east for approximately 0.2 mile before exiting the CNF. The line then turns southeast for approximately 1.4 miles through private land and branches off to the north. The northern branch continues through private land for approximately 0.4 mile, re-enters the CNF, continues approximately 0.8 mile north, and crosses Sunrise Highway again. From the branching point, the line continues southeast for approximately 0.2 mile before re-entering the CNF. After the line re-enters the CNF, it continues for approximately 0.5 mile before crossing Kitchen Creek Road. From the Kitchen Creek Road crossing, the line continues southeast for approximately 0.2 mile, turns northeast for approximately 0.6 mile, and branches off to the south for approximately 1.4 miles, with short branches extending off this branch. The line continues northeast for approximately 0.1 mile, crosses Sunrise Highway a fourth time, then follows Sunrise Highway northeast for approximately 0.4 mile, crossing Wooded Hill Road before exiting the CNF. After exiting the CNF, the line continues to follow Sunrise Highway northeast for approximately 0.6 mile with smaller branches extending to the east and west. It then re-enters the CNF, travels north for approximately 0.5 mile, crossing Red Tail Roost Road and following the Sunrise Highway. The line then exits the CNF near Burnt Rancheria Campground. After traveling north through private land for approximately 0.3 mile with short branches extending off the line, it re-enters the CNF near Escondido Ravine Road. From Escondido Ravine Road, the line branches off to the northwest for approximately 0.2 mile, with additional branches extending off the line. From the branching point, the line crosses Sunrise Highway and continues to the northeast past Mount Laguna for approximately 0.5 mile. From Mount Laguna near the intersection of Sunrise Highway and Los Huecos Road, the line branches off to the northwest along Los Huecos Road for approximately 3.6 miles, with short branches extending farther off of this branch. The remainder of the line is located entirely within the CNF, with the exception of approximately 0.2 mile near the intersection of Boiling Spring Road and Los Huecos Road. The northwestern branch of the line passes on the eastern side of Little Laguna Lake, Big Laguna Lake, Laguna Campground, and El Prado Campground, and terminates near the intersection of Sunrise Highway and Oasis Road. From the branching point near Mount Laguna, the line continues to the northeast and follows Sunrise Highway for approximately 1.4 miles with short branches extending at intervals off the line. The line passes to the west of Pacific Crest Trail and terminates near Monument Peak Road.

Approximately 17.7 miles of C440 crosses USFS-administered land. Outside of the CNF, C440 crosses approximately 6.3 miles of private land. Land uses along the C440 route include agriculture, recreation, residences, and the Mount Laguna Observatory.

3.1.4 C442

C442 is located near the community of Pine Valley and runs from Pine Valley Road south toward Los Pinos Fire Lookout and along Pine Creek Road south toward Pine Valley, as shown in Attachment A: Detailed Route Maps. The southern segment travels southwest from Pine Valley Road, just south of I-8 and the unincorporated community of Pine Valley, for approximately 2.2 miles through the CNF, passing to the west of Long Valley Peak. The line then exits the CNF and travels southwest for approximately 2.5 miles before terminating near

Los Pinos Mountain. The northern segment is located entirely within the CNF and travels south along Pine Creek Road for approximately 1.0 mile, traveling to the west of Noble Canyon National Recreation Trail and associated trailhead, with approximately 0.5 mile along three branches to the east.

Approximately 3.7 miles of C442 crosses USFS-administered land. Outside of the CNF, C442 crosses approximately 2.5 miles of private land. Land uses along the C442 route include recreation, residences, and the Los Pinos Peak Fire Lookout.

3.1.5 C449

C449 is located near the community of Cameron Corners. This portion of C449 runs from Old Highway 80 south along Buckman Springs Road to Oak Drive and southwest along Morena Stokes Valley Road to Camp Morena, as shown in Attachment A: Detailed Route Maps. The included portion of C449 begins within the CNF, approximately 0.3 mile west of Old Highway 80. From the beginning point, the line branches off to the northeast, southeast, and southwest. The northeastern branch continues for approximately 0.2 mile through the CNF and turns east for approximately 0.1 mile to cross Old Highway 80. The southeastern branch also continues through the CNF for approximately 0.4 mile. The southwestern branch travels through the CNF for approximately 0.1 mile and branches off to the northwest and southwest. The northwestern portion continues through the CNF for approximately 0.2 mile, crosses Pacific Crest Trail, and exits the CNF. After leaving the CNF, the line travels for approximately 0.3 mile and terminates at Buckman Springs Road near Tulloch Ranch.

The southwestern branch, which is the main segment of the line, continues southwest for approximately 0.7 mile. The line then branches off to the west through the CNF for approximately 0.4 mile, heading north for approximately 0.1 mile toward Cottonwood Fire Station, and heading southwest for approximately 0.3 mile and crossing Pacific Crest Trail and Buckman Springs Road. From Buckman Springs Road, the line continues southwest for approximately 0.1 mile before exiting the CNF. The line leaves the CNF for approximately 0.2 mile and travels through Lake Morena County Park, re-enters the CNF near Morena Stokes Valley Road, travels for approximately 0.1 mile southwest through the CNF, and leaves the CNF. The line continues approximately 0.4 mile southwest along Morena Stokes Valley Road through Lake Morena County Park until it re-enters the CNF. The line turns northwest for approximately 0.1 mile, then southwest for approximately 0.1 mile where it crosses Morena Stokes Valley Road, and proceeds northwest for approximately 0.3 mile before reaching the Camp Morena sub-installation of Naval Base Coronado.

The main line continues southwest through the CNF for approximately 0.4 mile, turns southeast for approximately 0.5 mile, then turns back southwest for approximately 0.1 mile before heading southwest for approximately 0.1 mile to cross Buckman Springs Road. From this crossing, the line travels south along Buckman Springs Road and to the east of Pacific Crest Trail for approximately 1.2 miles, crosses Oak Drive, and then proceeds south for approximately 0.1 mile until it terminates northeast of Morena Village and Lake Morena County Park.

Approximately 5.8 miles of C449 crosses USFS-administered land. Outside of the CNF, C449 crosses approximately 0.9 mile of San Diego County Department of Parks and Recreation land

and private land. Land uses along the C449 route include recreation, residences, Boulder Oaks Elementary School, and the Camp Morena sub-installation of Naval Base Coronado.

4 – PROJECT COMPONENTS

The following subsections describe the Proposed Action activities in further detail; activities conducted for Connected Actions and Similar Actions are similar in nature and in scope to those described for the Proposed Action. Figure 2: Proposed Action Components Map, Figure 3: Connected Actions Components Map, and Figure 4: Similar Actions Components Map illustrate where these activities would occur.

4.0 WOOD-TO-STEEL CONVERSION

4.0.0 Pole Installation

Along each of the five 69 kV power lines and six 12 kV distribution lines, SDG&E would remove existing wood poles and replace them with weathered-steel poles at an approximately one-to-one ratio. The steel poles would typically be placed in line with the existing conductors and within eight feet of the existing wood poles, except where sensitive resources were identified and avoided during preliminary design. As part of its design activities, SDG&E incorporated known data regarding cultural, biological, hydrological, and other sensitive resources in determining potential pole relocations. Where possible, SDG&E has identified replacement pole locations to avoid these areas.

SDG&E would use tangent poles when the pole alignment continues in a generally straight line, and angle poles when the run of poles changes direction.[2] As part of the Proposed Action, approximately 378 poles would be installed within the CNF—approximately 266 tangent poles and 112 angle poles—to support the 69 kV power lines with an average conductor span length of approximately 400 feet. Similarly, approximately 508 poles would be installed within the CNF—approximately 352 tangent poles, 151 angle poles, and five riser poles—to support the 12 kV distribution lines with an average span length of approximately 230 feet.

As part of Connected Actions, approximately 1,006 poles would be installed on lands outside the CNF—approximately 710 tangent poles and 296 angle poles—to support the 69 kV power lines, with an average conductor span length of approximately 400 feet. As part of Similar Actions, approximately 212 poles would be installed outside the CNF—approximately 137 tangent poles, 73 angle poles, and two riser poles—to support the 12 kV distribution lines, with an average span length of approximately 230 feet. Table 1: 69 kV Power Line Pole Summary and Table 2: 12 kV Distribution Line Pole Summary detail the quantity and approximate dimensions of replacement steel poles planned for each line. All pole locations and dimensions are based on preliminary engineering data and will not be finalized until engineering has been completed.

[2] An angle pole is designed to take the additional lateral loading caused by a change in the conductors' centerline direction. Angle poles may also be used in areas of insulator uplift and near stringing sites to accommodate additional pole stress in these areas.

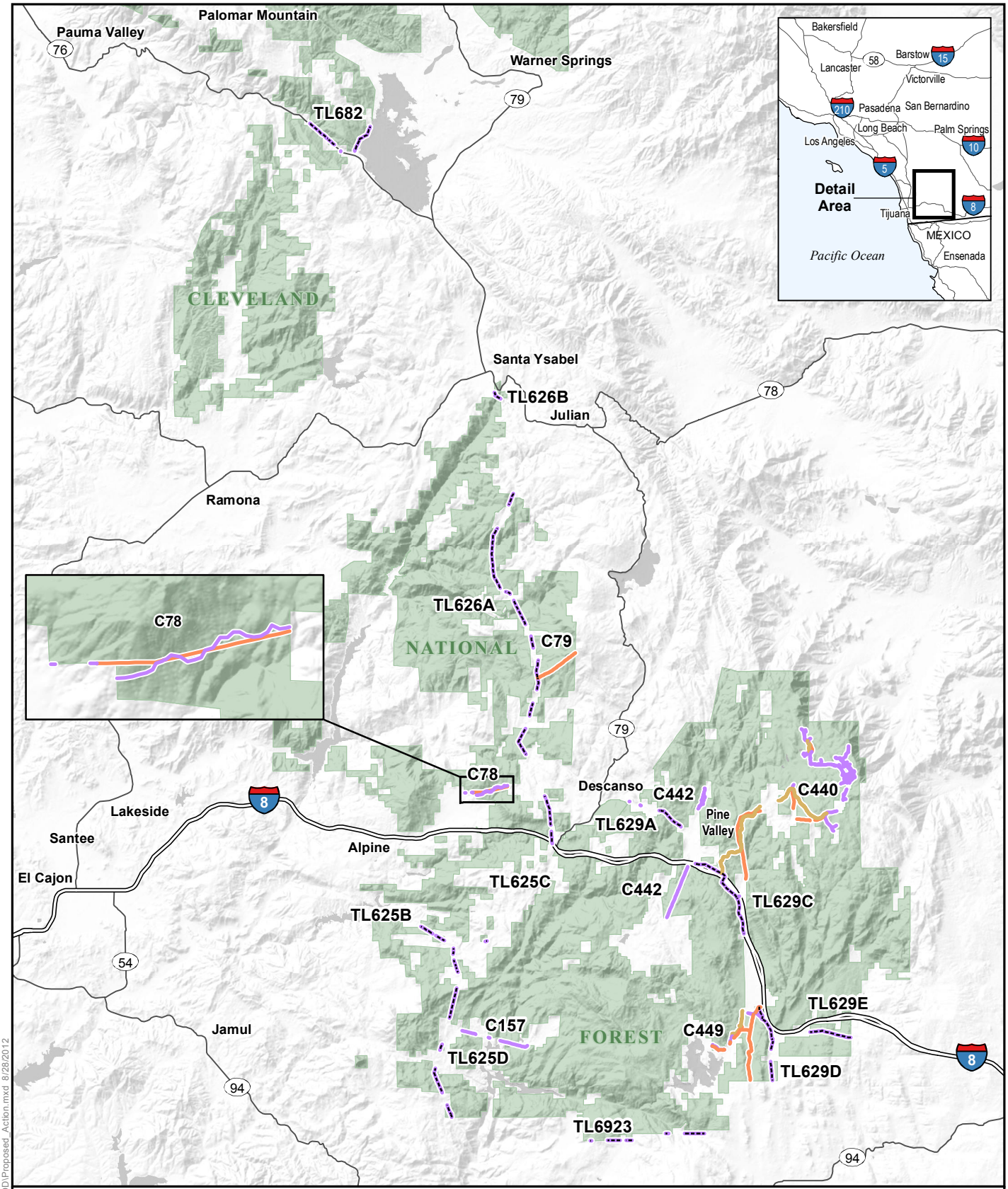

Figure 2: Proposed Action Components Map

CNF Preliminary Plan of Development

- Removal
- Undergrounding
- Wood-to-Steel Replacement
- *69 kV Power Line Shown with Dashed Line*
- United States Forest Service
- Interstate
- State Highway
- Lake/Reservoir

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

1 inch = 6 miles

0 2 4 6 Miles

Source: SDG&E, 2012; USFS, 2012; CPAD 1.7 GreenInfo Network, 2011

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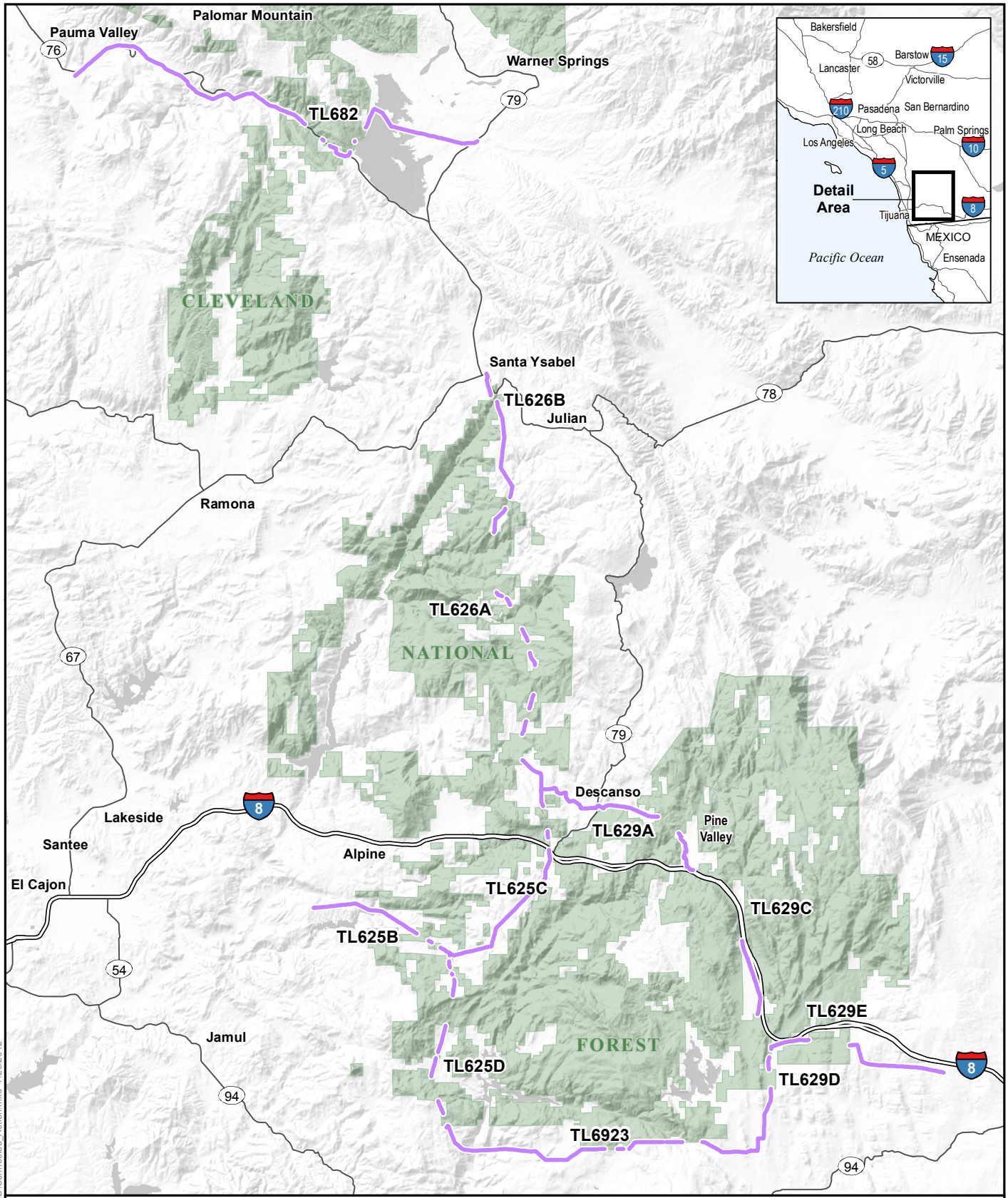

Figure 3: Connected Actions Components Map — **CNF Preliminary Plan of Development**

Wood-to-Steel Replacement
United States Forest Service
Interstate
State Highway
Lake/Reservoir

1 inch = 6 miles
0 2 4 6 Miles

Source: SDG&E, 2012; USFS, 2012; CPAD 1.7 GreenInfo Network, 2011

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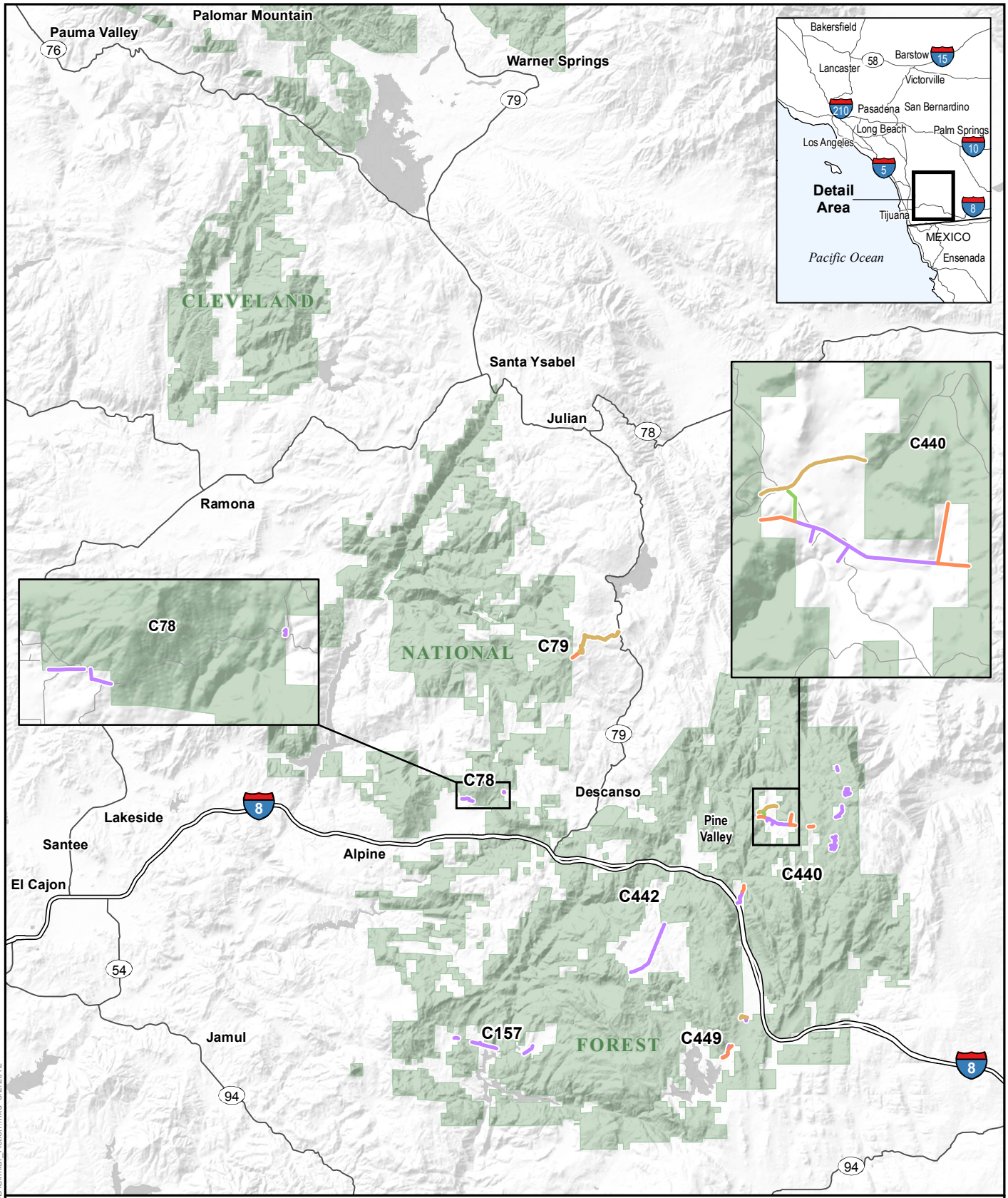

Figure 4: Similar Actions Components Map

CNF Preliminary Plan of Development

- New Steel
- Removal
- Undergrounding
- Wood-to-Steel Replacement
- United States Forest Service
- Interstate
- State Highway
- Lake/Reservoir

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

1 inch = 6 miles

0 2 4 6 Miles

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Source: SDG&E, 2012; USFS, 2012; CPAD 1.7 GreenInfo Network, 2011

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Table 1: 69 kV Power Line Pole Summary

69 kV Power Line Pole Type	Approximate Quantity			Maximum Height (feet)	Maximum Base Diameter (feet)
	Within CNF	Outside CNF	Total		
TL625					
Tangent	49	109	158	120	3
Angle	23	86	109	120	5
Subtotal	*72*	*195*	*267*	--	--
TL626					
Tangent	98	123	221	100	3
Angle	22	36	58	100	5
Subtotal	*120*	*159*	*279*	--	--
TL629					
Tangent	86	248	334	110	3
Angle	51	57	108	110	5
Subtotal	*137*	*305*	*442*	--	--
TL682					
Tangent	24	151	175	110	3
Angle	6	78	84	110	5
Subtotal	*30*	*229*	*259*	--	--
TL6923					
Tangent	9	79	88	100	3
Angle	10	39	49	100	5
Subtotal	*19*	*118*	*137*	--	--
Total	**378**	**1,006**	**1,384**	**120**	**5**

Note: The information in this table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Table 2: 12 kV Distribution Line Pole Summary

Distribution Pole Type	Approximate Quantity			Maximum Height (feet)	Maximum Base Diameter (feet)
	Within CNF	Outside CNF	Total		
C78					
Tangent	8	1	9	52	1.2
Angle	22	13	35	47.5	1.2
Subtotal	*30*	*14*	*44*	--	--
C79					
Riser	0	1	1	43	1.1
Subtotal	*0*	*1*	*1*	--	--
C157					
Tangent	28	23	51	47.5	1.2
Angle	0	6	6	47.5	1.2
Subtotal	*28*	*29*	*57*	--	--
C440					
Tangent	229	63	292	61	1.6
Angle	100	45	145	62	1.6
Riser	4	0	4	50	1.1
Subtotal	*333*	*108*	*441*	--	--
C442					
Tangent	67	42	109	61	1.3
Angle	15	5	20	47.5	1.2
Subtotal	*82*	*47*	*129*	--	--
C449					
Tangent	20	8	28	52	1.2
Angle	14	4	18	38.5	1.1
Riser	1	1	2	43	1.1
Subtotal	*35*	*13*	*48*	--	--
Total	**508**	**212**	**720**	**62**	**1.6**

Notes:

- The information in this table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.
- Undergrounding on C79 will occur outside of the CNF boundary.

SDG&E would direct-bury replacement steel poles where possible or install self-supported steel poles on poured or micro-pile foundations, as local conditions require. Attachment C: Typical Drawings provides typical drawings of each type of pole and foundation that would be removed or installed. Tangent poles and angle poles have a maximum installed height of approximately 120 feet. SDG&E will design and install all new poles to conform to the guidelines in the Suggested Practices for Avian Protection on Power Lines Manual developed by the Avian Power Line Interaction Committee (APLIC). A detailed discussion of pole installation methods is provided in Section 7.2 Methods.

4.0.1 Conductor Installation

Prior to stringing the new overhead 69 kV power lines and 12 kV distribution lines with replacement non-specular conductors, temporary guard structures—typically consisting of vertical wood poles with cross arms—would be installed at road crossings and crossings of energized electric and communication lines to prevent the conductors from sagging onto roadways or other lines during conductor installation.

In some cases, bucket trucks may also be used in place of these guard structures. As an alternative to using temporary guard structures, SDG&E may use flaggers to halt traffic for brief periods of time while the overhead conductor is installed at road crossings.

69 kV Power Lines

For the five 69 kV power lines, SDG&E would configure each steel pole to carry the following:

- Three 69 kV 636 kcmil (0.977-inch diameter) aluminum-clad steel-supported (ACSS) aluminum conductors.[3] For double-circuit segments, up to six 69 kV 636 kcmil ACSS conductors would be installed.

- Two to seven 12 kV 636 kcmil (0.997-inch diameter) aluminum-clad steel-reinforced (ACSR) aluminum conductors, 12 kV 336.4 kcmil (0.721-inch diameter) ACSR aluminum conductors, 12 kV No. 2 5/2 (0.330-inch diameter) Alumoweld aluminum conductors (AWAC), or 12 kV No. 2 3/4 (0.386-inch diameter) AWAC.

- One level of communication circuits (0.685-inch diameter).

TL629C, TL629D, and TL629E would also be designed to carry one optical ground wire (0.646-inch diameter). SDG&E would install three 69 kV conductors on one or both sides of the steel poles and would arrange the conductors in a vertical configuration with a minimum separation of 4.5 feet. Where 12 kV distribution underbuild is required, SDG&E would install two 12 kV conductors on each side of the 69 kV power line steel poles and arrange the conductors in a horizontal configuration with a minimum separation of four feet. SDG&E would install the lowest 69 kV conductor at least 30 feet above the ground (25 feet above the ground where there is pedestrian access only) and the lowest 12 kV conductor at least 25 feet above the ground (17 feet above the ground where there is pedestrian access only). For single-circuit tangent poles,

[3] A circular mil is a unit equal to the area of a circle with a diameter of one mil (0.001 inch); this is used chiefly in specifying cross-sectional areas of round conductors. A kcmil is 1,000 circular mils.

the conductors would be attached using three post insulators installed on each pole. For double-circuit tangent poles, the conductors would be attached using six post insulators installed on each pole. For single-circuit angle poles, the conductors would be attached using six suspension and three post insulators installed on each pole. For double-circuit angle poles, the conductors would be attached using 12 suspension insulators installed on each pole.

12 kV Distribution Lines

For the six 12 kV distribution lines, SDG&E would configure each steel pole to carry two to four 12 kV 636 kcmil (0.997-inch diameter) ACSR aluminum conductors, 12 kV 336.4 kcmil (0.721-inch diameter) ACSR aluminum conductors, 12 kV No. 2 5/2 (0.330-inch diameter) AWAC, or 12 kV No. 2 3/4 (0.386-inch diameter) AWAC. SDG&E would install one to two conductors on each side of the steel poles and arrange the conductors in a horizontal configuration. SDG&E would install the new conductors with a minimum horizontal separation of approximately four feet. SDG&E would install the lowest conductor at least 25 feet above the ground (17 feet above the ground where there is pedestrian access only). SDG&E would attach the conductors to the distribution poles using one polymer insulator per conductor installed on each steel pole. Attachment D: Electric and Magnetic Fields includes SDG&E's plan to address potential effects from exposure to electric and magnetic fields associated with the Proposed Action.

4.0.2 Installation of Other Facilities

In addition to the replacement steel poles and conductors, SDG&E may install all necessary and proper guys, anchorage, crossarms and braces and other fixtures for use in connection therewith, including but not limited to, ancillary facilities such as pole- or pad-mounted transformers and other equipment needed to effectively support and enable electric transmission and distribution across the system. Corollary to this equipment, SDG&E may also install appurtenant facilities—such as weather stations, fire safety and early fire detection equipment, smart-grid system data collection equipment, or other technologies or facilities—on the replacement steel poles within existing ROWs, as needed, to collect additional information needed to further increase fire safety and service reliability as new technologies become available.

4.1 SINGLE- TO DOUBLE-CIRCUIT CONVERSION

SDG&E proposes to convert some lines from a single- to double-circuit configuration in order to improve system reliability and reduce service interruptions in the event of accidents, natural disasters, or other events that could cause harm to or interrupt service. Doing so incorporates redundancy into the system and obviates the need for existing tap poles, which currently create added risk to the system in that if one tap pole is rendered out of service then multiple electric lines are potentially impacted. Additionally, double-circuiting portions of lines from substations enables SDG&E to divert loop flow, as needed, without creating additional risks to the system which could potentially cause conductor overload or system outages. Specifically, SDG&E would install replacement double-circuit steel poles similarly to that described in Section 4.0 Wood-to-Steel Conversion. SDG&E would string 636 kcmil ACSS aluminum conductors on post or suspension insulators; three conductors would be strung on one or both sides of the replacement poles. A summary of the 69 kV power line segments selected for single- to double-circuit conversion under the Proposed Action and as Connected Actions is included in Table 3: 69 kV Power Line Single- to Double-Circuit Conversion Summary.

Table 3: 69 kV Power Line Single- to Double-Circuit Conversion Summary

69 kV Power Line	Approximate Length (miles)		
	Within CNF	Outside CNF	Total
TL625B/TL6957	1.0	2.9	3.9
TL629E/TL6958	1.7	0.1	1.8
Total	**2.7**	**3.0**	**5.7**

The following subsections describe the segments of 69 kV power lines that SDG&E would convert from single- to double-circuit configuration.

4.1.0 TL625B

As part of the Proposed Action, SDG&E would reconfigure and reconductor approximately one mile of TL625B between Loveland Substation and Barrett Tap from a single-circuit line to a double-circuit line. As part of a Connected Action, SDG&E would reconfigure and reconductor approximately 2.9 miles of TL625B between Loveland Substation and Barrett Tap from a single-circuit line to a double-circuit line. The resulting 69 kV power line segments would be reclassified as TL625 (Loveland Substation to Descanso Substation) and TL6957 (Loveland Substation to Barrett Substation).

4.1.1 TL629E

As part of the Proposed Action, SDG&E would reconfigure and reconductor approximately 1.7 miles of TL629E between Cameron Tap and Crestwood Substation from a single-circuit line to a double-circuit line and remove Cameron Tap. As part of a Connected Action, SDG&E would reconfigure and reconductor an approximately 0.1-mile-long segment of TL629E between Cameron Tap and Crestwood Substation from a single-circuit line to a double-circuit line. The resulting 69 kV power lines would be reclassified as TL629C (Glencliff Substation to Crestwood Substation), and TL6958 (Cameron Substation to Crestwood Substation).

4.2 69 KV POWER LINE UNDERGROUNDING

As part of the single- to double-circuit conversion of TL629E, SDG&E would replace the existing overhead connection of TL629E to Crestwood Substation with an underground connection. This underground connection would begin at the replacement steel pole west of Crestwood Substation, proceed east to the western shoulder of Old Highway 80, continue north along the western shoulder of Old Highway 80, cross under Old Highway 80 to the west via jack-and-bore construction (as described further in the following paragraphs), continue east along SDG&E's access road to Crestwood Substation, and finally turn south into the substation where it would connect to the existing rack.

In order to construct this underground connection, SDG&E would use jack-and-bore construction to place the line along the approximately 792-foot underground route. This technique consists of a boring operation that simultaneously pushes a casing under an obstacle and removes the spoil inside the casing with a rotating auger; it is typically used to install conduit at locations where traditional open-cut trenching is not permitted or is infeasible, such as across Old Highway 80 in this case. Boring operations would begin with excavating bore pits at the sending and receiving ends of the bore. Boring and receiving pits would typically measure approximately 20 feet by 40 feet. The depth of the proposed bore pits would be between 10 and 20 feet, depending on local site conditions. It is anticipated that between approximately 590 and 1,180 cubic yards (CY) of material would be excavated to facilitate each jack-and-bore installation required to complete the substation connection. In addition, SDG&E would install one concrete splice vault along the western shoulder of Old Highway 80 to provide maintenance access to the underground conduit.

After establishing the bore pits, boring equipment would be delivered to the site and then installed into the bore pit at the sending end. The casings would be installed at least three to four feet below Old Highway 80, as practicable. Once the casing are in place, the polyvinyl chloride (PVC) cable ducts would be installed within the casing using spacers to hold them in place. The casings would be left in place to protect the conduit once it has been installed. Following the completion of all boring, installation of the casings and conduits, and completion of the concrete duct bank, the bore pits would be backfilled using native or engineered material and the duct bank would be covered with at least 36 inches of native or engineered fill, as appropriate. Soil not used for backfill would be hauled off site and disposed of at an approved facility, such as the Allied Otay Landfill. SDG&E would secure the necessary permits to conduct these specialized construction activities and would implement standard best management practices (BMPs), including silt fencing and straw wattles, in accordance with the Proposed Action's Storm Water Pollution Prevention Plan (SWPPP).

4.3 12 KV DISTRIBUTION LINE UNDERGROUNDING

SDG&E would replace some portions of existing overhead 12 kV distribution lines with underground lines installed in concrete duct banks. A summary of the 12 kV distribution line segments selected for undergrounding under the Proposed Action and Similar Actions is included in Table 4: 12 kV Distribution Line Undergrounding Summary.

One to two approximately 2.2- or 4.3-inch-diameter cables would be installed in a 1.5-foot-wide by 1.5-foot-deep duct bank containing two to three 4- to 5-inch-diameter PVC conduits encased in concrete or sand and native fill. These cables would connect to overhead 12 kV distribution facilities via eight approximately 45-foot-tall new and existing riser poles. A typical drawing of the proposed duct bank has been included in Attachment C: Typical Drawings. SDG&E would also install approximately 5.5-foot-wide by eight-foot-long by seven-foot-deep splice vaults along the underground segments, approximately 500 to 800 feet apart depending on local site conditions, to provide maintenance access to the underground conductors. Approximately 61 vaults are included as part of the Proposed Action, and 25 vaults are included as part of Similar Actions.

Table 4: 12 kV Distribution Line Undergrounding Summary

12 kV Distribution Line	Length (miles)		
	Within CNF	Outside CNF	Total
C79	0.0	2.8	2.8
C440	7.5	0.9	8.4
C449	1.5	0.3	1.8
Total	**9.0**	**4.0**	**13.0**

C79

As part of Similar Actions, a new approximately 2.8-mile-long underground portion of C79 would run from the Cuyamaca Peak communication site along Lookout Road to the eastern side of SR-79, as shown in Attachment A: Detailed Route Maps. This segment would replace the existing overhead arrangement for a portion of C79, which would be removed as part of the Proposed Action and Similar Actions.

C440

As part of the Proposed Action, a new approximately 3.9-mile-long underground portion of C440 would run from near I-8 northeast along Sunrise Highway to approximately 0.2 mile southwest of Sheephead Mountain Road, as shown in Attachment A: Detailed Route Maps. A new approximately 2.9-mile-long underground portion of C440 would continue along Sunrise Highway from approximately 0.6 mile northeast of Sheephead Mountain Road to P40152, approximately 0.4 mile west of Morris Ranch Road. In addition, a new approximately 0.6-mile-long underground portion of C440 would run from P45860 to P40229 in the Laguna Campground area, which would replace a portion of the existing overhead arrangement in this area.

As part of Similar Actions, a new approximately 0.9-mile-long underground portion of C440 would run from approximately 0.2 mile southwest of Sheephead Mountain Road to approximately 0.6 mile northeast of Sheephead Mountain Road, as shown in Attachment A: Detailed Route Maps.

These underground segments would replace a portion of the existing overhead arrangement along C440, which would be removed as described in Section 4.4 Existing 12 kV Distribution Line Removal.

C449

As part of the Proposed Action, a new approximately 1.5-mile-long underground portion of C449 would run from approximately 0.1 mile south of Mountain Empire High School south along Buckman Springs Road and continue south along Morena Stokes Valley Road to New Pole

16, where it would connect to the existing overhead line that runs to Camp Morena, as shown in Attachment A: Detailed Route Maps.

As part of Similar Actions, a new approximately 0.3-mile-long underground portion of C449 would run from P45477 to approximately 0.1 mile south of Mountain Empire High School along the southern boundary of Mountain Empire High School and south along Buckman Springs Road.

These underground segments would replace a portion of the existing overhead arrangement along C449, which would be removed as described in Section 4.4 Existing 12 kV Distribution Line Removal.

4.4 EXISTING 12 KV DISTRIBUTION LINE REMOVAL

Eliminating electric lines in areas of increased fire risk or higher environmental sensitivity can be an effective fire safety and environmental improvement when electric service can be safely and adequately provided through alternative facilities. Removing existing facilities requires dismantling and disposing of existing wood distribution poles, insulators, conductors, transformers, and other associated materials. Where distribution lines are removed, the old conductor would be wound onto wooden spools, placed on flatbed trucks, and recycled at an approved facility, such as SDG&E's Mountain Empire Construction and Operations (MECO) yard in Pine Valley. The entire existing wooden pole would be removed unless protection of an environmental resource requires the pole to be cut off at the surface and the base left in place. The resulting holes would be backfilled. Imported material may be used to backfill the holes as needed; however, as much native material as possible would be used on site. These areas would then be allowed to revegetate naturally. The old wooden distribution poles would be removed from the site by a helicopter, crane, or other lift; placed on flatbed trucks; and then recycled or disposed of at an approved facility, such as at the MECO yard in Pine Valley. A summary of the distribution line segments selected for removal under the Proposed Action and Similar Actions is included in Table 5: 12 kV Distribution Line Removal Summary.

Table 5: 12 kV Distribution Line Removal Summary

12 kV Distribution Line	Approximate Length (miles)			Approximate Number of Poles Removed		
	Within CNF	Outside CNF	Total	Within CNF	Outside CNF	Total
C79	1.8	0.4	2.2	46	18	64
C440	5.8	1.4	7.2	81	18	99
C449	5.0	0.8	5.8	87	15	102
Total	**12.6**	**2.6**	**15.2**	**214**	**51**	**265**

4.4.0 C79

As part of the Proposed Action, SDG&E would remove approximately 1.8 miles of the existing C79 distribution line from its intersection with TL626 just west of Boulder Creek Road to approximately 0.4 mile southwest of its terminus at the summit of Cuyamaca Peak (Pole P377371 to Pole P377405).

As part of Similar Actions, SDG&E would remove approximately 0.4 mile of the existing C79 distribution line from Pole P676926 to Pole P377414 at the summit of Cuyamaca Peak.

Service to Cuyamaca Peak would be provided via the new underground distribution line along Lookout Road, as described in Section 4.3 12 kV Distribution Line Undergrounding.

4.4.1 C440

As part of the Proposed Action, SDG&E would remove the following five segments of C440:

- Pole P40013 to Pole P40054 (approximately 3.5 miles)
- Pole P40080 to Pole P40088 (approximately 0.8 mile)
- Pole P40102 to Pole P40111 (approximately 0.5 mile)
- Pole P40116 to Pole P40124 (approximately 0.5 mile)
- Pole P40229 to Pole P40239 (approximately 0.5 mile)

As part of Similar Actions, SDG&E would remove the following four segments of C440:

- Pole P223415 to Pole P40012 (approximately 0.3 mile)
- Pole P40055 to Pole P40057 (approximately 0.3 mile)
- Pole P40079 to Pole P45310 (approximately 0.7 mile)
- Pole P40112 to Pole P44331 (approximately 0.2 mile)

These areas would be served by the proposed underground segment along Sunrise Highway and the underground segment in the Laguna Campground area, as described in Section 4.3 12 kV Distribution Line Undergrounding, as well as wood-to-steel replacement of the remaining existing facilities for C440.

4.4.2 C449

As part of the Proposed Action, SDG&E would remove the following five segments of C449:

- Pole P40559 to Pole P40602 (approximately 0.3 mile)
- Pole P42706 to Pole P42912 (approximately 2.9 miles)
- Pole P42722 to Pole P42757 (approximately 1.1 miles)
- Pole P42761 (approximately 0.1 mile)
- Pole P42770 to Pole P42780 (approximately 0.6 mile)

As part of Similar Actions, SDG&E would remove the following four segments of C449:

- Pole P42758 to Pole P104078 (approximately 0.2 mile)

- Pole P42762 to Pole P42763 (approximately 0.1 mile)
- Pole P46465 to Pole P42769 (approximately 0.2 mile)
- Pole P45477 to Pole P163409 (approximately 0.2 mile)

These areas would be served by the proposed approximately 1.5-mile-long underground line along Buckman Springs Road and Morena Stokes Valley Road, as described in Section 4.3 12 kV Distribution Line Undergrounding, and the 12 kV distribution line underbuilt on TL629D. A portion of the existing load along this line would also be tied into and become part of C441, which is included under the MSUP as part of SDG&E's distribution system but is outside the CNF boundary where these changes to include a portion of C449's existing load would occur.

4.5 ACCESS ROAD MODIFICATION

Within the CNF, SDG&E has for decades regularly maintained a network of approximately 30.0 miles of existing access roads, spur roads, and turnarounds to support and provide access to its existing 69 kV power lines, as well as approximately 17.6 miles of access roads to support existing 12 kV distribution lines. SDG&E also has regularly maintained a network of approximately 0.9 mile of existing access roads, spur roads, and turnarounds to support and provide access to the existing 69 kV power lines extending outside of USFS-administered lands, as well as a network of approximately 0.8 mile of existing access roads, spur roads, and turnarounds to support and provide access to the existing 12 kV distribution lines extending outside of USFS-administered lands.

Access roads provide connectivity between established local and regional roadways and electric line ROW areas. Spur roads provide access to pole locations and other equipment where these facilities are located away from access road locations. Turnarounds are extended vehicle areas used to provide maneuverable space for work vehicles. These roads and areas may contain paved, gravel, or unpaved earth surfaces. Where replacement poles would be close to existing pole locations, existing access roads, spur roads, and turnarounds would be used as much as possible to support construction activities and would continue to be used for future line maintenance. No new access roads are currently anticipated as part of the Proposed Action based on the preliminary construction design and proposed configuration; however, changes in project design may require new access roads, depending on site-specific circumstances. Where existing access roads are damaged, repairs may be made by blading and smoothing the access road as applicable. Importing and compacting more stable materials on existing facilities in unstable areas may also be required. Generally, access roads and spur roads would be graded level and approximately 12 to 15 feet wide (approximately 20 feet wide at corners) to allow construction equipment and vehicles to access each site safely in accordance with the 2007 SDG&E Design and Procedure Manual for Transmission Line Access Roads. Turnarounds would be sized according to local site conditions and as required by construction equipment and vehicles. SDG&E would continue to utilize BMPs to minimize dust and erosion.

Where construction design calls for removal or relocation of portions of existing 12 kV distribution lines, some or all of the existing access roads currently serving these areas would be removed and the land would be returned to pre-construction vegetative conditions to the extent feasible. Based on the most recent design, SDG&E currently anticipates removing

approximately 4.2 miles of existing access roads along C79, approximately 4.0 miles along C440, approximately 0.6 mile along C442, and approximately 2.4 miles along C449. In total, approximately 11.2 miles of existing access roads would be removed, including approximately 11.1 miles within the CNF and 0.1 mile outside the CNF. In addition, SDG&E proposes to eliminate the existing access road crossing of Boulder Creek along TL626 between poles Z372130 and Z372131; at this location, the crossing would be eliminated and turnarounds installed at either side to permit safe vehicle maneuvering.

5 – ALTERNATIVES

As noted previously, the Proposed Action originally began as a proposal to adopt an MSUP for SDG&E's existing facilities within the CNF. The Proposed Action has evolved to include fire hardening and additional undergrounding activities that were initially described in alternatives to the Proposed Project described in the 2009 EA published by the USFS. More specifically, in accordance with NEPA, the EA solicited comments on the Proposed Action and four alternatives identified in the EA; after public comments on the EA were received, the USFS determined that the MSUP and an increased fire safety component should be evaluated in an EIS. As described in the following sections, SDG&E incorporated recommendations from the EA's Increased Fire Prevention Measures Alternative as well as various additional fire hardening activities in response to these comments. As a result, the Proposed Action itself is an alternative to the original proposal to consolidate 70 existing authorizations into one MSUP.

SDG&E has worked with the USFS to identify which lines to propose for fire hardening. During preparation of an EIS, however, the USFS may determine that any alternative described in the following sections or any combination of fire hardening activities included in the Proposed Action should be analyzed for and included in the USFS' Record of Decision for the Proposed Action. Several potential alternatives to the Proposed Action were considered and are described in the following subsections: the previous Proposed Action and alternatives analyzed in the 2009 EA, the Relocation of TL626 Alternative, and the Updated No Action Alternative. Because none of the alternatives considered would feasibly obtain the objectives of the Proposed Action, further analysis was not included in this POD. Nonetheless, key elements of several alternatives were incorporated into the Proposed Action during the project design process and consultation with the USFS since 2009.

5.0 ALTERNATIVES ORIGINALLY ANALYZED IN THE EA

Four alternatives were initially analyzed in the March 2009 MSUP EA. These four alternatives were the No Action Alternative, the original Proposed Action for an MSUP, the Increased Fire Prevention Measures Alternative, and the Underground Condition Alternative. The current Proposed Action incorporates portions of all of the alternatives analyzed in the EA (except the No Action Alternative).

5.0.0 Environmental Assessment No Action Alternative

Under the EA No Action Alternative, no MSUP would be issued. SDG&E would continue to operate and maintain its facilities pursuant to expired use permits and easements, and without the benefit of an MSUP.

5.0.1 Environmental Assessment Proposed Action Alternative

Under the Proposed Action Alternative, the approximately 70 expired permits would be administratively combined into one MSUP to authorize the continued operation and maintenance of the existing system. However, construction of replacement facilities to increase fire safety and service reliability and other system improvements would not be included in the MSUP. Through the issuance of an MSUP under this alternative, a set of resource protection measures would be established to which all operation and maintenance activities would need to comply, and fire hardening activities could be reviewed as individual construction projects after the MSUP is approved. The MSUP would be issued for a period of 20 years.

5.0.2 Environmental Assessment Increased Fire Prevention Measures Alternative

The Increased Fire Prevention Measures Alternative, as described in the EA, would include the EA Proposed Action Alternative, as well as specific requirements for fire-prevention measures, including the preparation and approval of a Fire Control Plan. This alternative would require SDG&E to incorporate the following measures into all future operation and maintenance activities to reduce the risk of wildfire caused by vegetation-to-line contacts, power line arcing, or pole failure:

- Fuel treatment/vegetation management
- Prevention directives, including both physical and operational measures and to reduce the risk of fire from power lines
- Emergency response preparedness related to equipment and personnel availability
- Establishment of reporting procedures for permit-related fires
- Fire control/extinguishing procedures and equipment location
- Agreement to cooperate with USFS investigations of permit-related fires

5.0.3 Environmental Assessment Underground Condition Alternative

The EA Underground Condition Alternative includes the EA Increased Fire Prevention Measures Alternative described previously, with the additional condition that SDG&E develop and implement a plan to place up to 15 miles of the existing electric lines underground during the permit term. The plan would be submitted to the USFS for review and approval, at which point the USFS' Authorized Officer would determine which projects would be implemented and establish timelines for compliance.

5.1 RELOCATION OF TL626

For the Relocation of TL626 Alternative, TL626 would be relocated from its existing alignment west of Boulder Creek Road to an alignment along Boulder Creek Road from just north of the community of Descanso to Santa Ysabel Substation, and existing facilities and access roads would be removed.

5.2 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the existing alignments within the CNF would be maintained as they are currently, under their approximately 70 separate permits and easements. Each permit

would be updated and reissued according to the specific terms negotiated between SDG&E and the USFS, and no MSUP would be issued. In addition, none of the proposed fire hardening activities would be authorized. SDG&E would continue to operate its existing facilities within the CNF and would propose the fire hardening activities as individual projects. The USFS would be required to review and approve each of the individual fire-hardening projects, some of which may not be approved. All existing wood poles would be replaced in-kind, as needed. Further, segments TL625B and TL629E would not undergo single- to double-circuit conversion. No Fire Control Plan would be prepared for the Proposed Action area and no additional fire prevention measures would be included in future actions beyond those which already are in place. Additionally, the fire safety measures would be processed in a less coordinated and more ad hoc fashion than that included as part of the Proposed Action.

5.3 ALTERNATIVES THAT MAY BE ANALYZED IN THE EIS

Reasonable alternatives to the Proposed Action for evaluation in the EIS that may potentially be considered include a Fire Hardening of 69 kV Power Lines Only alternative and a Fire Hardening of 12 kV Distribution Lines Only alternative. In addition, the EIS may consider alternatives for fire hardening ay subset and combination of the 69 kV power lines and 12 kV distribution lines.

As previously noted, SDG&E evaluated each of these alternatives individually and determined that none could feasibly achieve the objectives of the Proposed Action. As a result, SDG&E selected the Proposed Action for further analysis in this POD.

6 – RIGHT-OF-WAY

SDG&E currently has existing ROWs—or franchise rights, for those portions of the 12 kV distribution lines to be undergrounded along public roadways—along the entire lengths of the 69 kV power lines and 12 kV distribution lines included in the Proposed Action. Within the CNF, existing ROWs for overhead 69 kV power lines are 30 feet wide, and existing ROWs for overhead distribution lines are 20 feet wide. Outside the CNF, existing ROWs have varying widths based on individual property owner agreements. All existing ROWs where activities would occur as part of the Proposed Action or as Connected Actions or Similar Actions would be maintained consistent with SDG&E's existing operation and maintenance procedures or those agreed upon in the Operating Plan for the CNF MSUP, the proposed working draft of which is attached as Attachment B: MSUP Operating Plan.

7 – CONSTRUCTION ACTIVITIES

Prior to initiating construction, SDG&E would make all the appropriate and necessary notifications, including landowner notifications. In addition, SDG&E would contact the Underground Service Alert prior to the start of ground-disturbing activities in order to identify underground utilities in the immediate area. Once SDG&E completes the appropriate notifications, construction would proceed as described in the following subsections. Construction activities for Connected Actions and Similar Actions would be similar in nature and scope to those described in the follow subsections for the Proposed Action.

7.0 ACCESS

The following subsections describe existing and planned future methods of access to the Proposed Action components.

7.0.0 Access Roads

As discussed in Section 4.5 Access Road Modification, SDG&E currently maintains a network of access roads, spur roads, and turnarounds to support and provide access to its existing 69 kV power lines and 12 kV distribution lines within and around the CNF. The 69 kV power line ROWs would be accessed using existing access roads, which are approximately 12 to 15 feet wide, and up to 20 feet wide at curves. Where existing access roads are damaged, typical repairs—such as smoothing the access road, stabilizing loose areas, and improving the surface quality of the road—may be made by blading, importing and compacting more stable materials in loose areas, or applying additional surface materials to improve access conditions. Repair of these access roads would be completed according to the 2007 SDG&E Design and Procedure Manual for Transmission Line Access Roads and according to landowner preferences, where feasible. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared to reduce or eliminate potential safety hazards. Where SDG&E determines existing access roads are no longer needed, these areas would be returned to pre-construction conditions consistent with the surrounding area to the extent feasible, based on NCCP restoration guidelines. Table 6: 69 kV Power Line Access Road Summary and Table 7: 12 kV Distribution Line Access Road Summary provide a summary of access road information.

In the event that an access road requires improvement outside the existing footprint of the roadway, SDG&E may evaluate the conversion to helicopter-only access for maintenance activities for the affected pole(s). SDG&E's proposed Working Draft Operating Plan for the CNF MSUP, included as Attachment B: MSUP Operating Plan, establishes a process to determine whether conversion to helicopter access would be evaluated. As discussed in Section 4.5 Access Road Modification, where construction design calls for removal or relocation of portions of existing 69 kV power lines or 12 kV distribution lines, some or all of the existing access roads currently serving these areas would be removed and the land returned to pre-construction vegetative conditions to the extent feasible. SDG&E proposes to remove a total of approximately 11.2 miles of existing access roads inside and outside of the CNF as part of the Proposed Action or Similar Actions.

Table 6: 69 kV Power Line Access Road Summary

69 kV Power Line	Approximate Length (miles)			Approximate Width (feet)	Approximate Area (acres)		
	Within CNF	Outside CNF	Total		Within CNF	Outside CNF	Total
TL625	11.0	0.3	11.3	12-20	26.7	0.7	27.4
TL626	9.9	0.2	10.1		24.0	0.5	24.5
TL629	6.9	0.1	7.0		16.8	0.4	17.1
TL682	1.1	--	1.1		2.7	--	2.7
TL6923	1.1	0.3	1.4		2.6	0.9	3.5
Total	**30.0**	**0.9**	**30.9**		**72.8**	**2.5**	**75.2**

Note: A 20-foot-wide buffer was used for spatial analysis to capture the maximum width of access road area.

Table 7: 12 kV Distribution Line Access Road Summary

12 kV Distribution Line	Approximate Length (miles)			Approximate Width (feet)	Approximate Area (acres)		
	Within CNF	Outside CNF	Total		Within CNF	Outside CNF	Total
C78	<0.1	<0.1	0.1	12-20	0.1	0.1	0.2
C79	4.1	0.1	4.2		9.4	0.2	9.6
C157	0.3	0.1	0.4		0.9	0.2	1.1
C440	4.7	<0.1	4.7		11.3	0.0	11.4
C442	3.6	0.4	4.0		8.8	1.1	9.8
C449	2.8	--	2.8		6.7	--	6.7
Total	**15.6**	**0.8**	**16.4**		**37.1**	**1.5**	**38.6**

Note: A 20-foot-wide buffer was used for spatial analysis to capture the maximum width of access road area.

7.0.1 Helicopter Access

SDG&E would conduct some portions of the Proposed Action by helicopter where overland access could create additional environmental impacts, poses safety risks, or is otherwise not feasible. Where necessary, SDG&E plans to utilize helicopters to deliver and remove construction material and personnel from areas with rugged terrain and where ground access would not safely accommodate the required construction equipment and vehicles. As part of the Proposed Action, SDG&E anticipates that approximately 333 of the approximately 886 poles would be set by helicopter. As part of Connected Actions, approximately 115 of the approximately 1,006 poles would be set by helicopter. As part of Similar Actions, approximately 67 of the approximately 212 poles would be set by helicopter.

Approximately three temporary helicopter fly yards within the CNF would be used for the Proposed Action, and nine temporary helicopter fly yards outside the CNF would be used for Connected and Similar Actions, as depicted in Attachment A: Detailed Route Maps and described in Section 7.1 Workspace. No helicopters would be stored at temporary fly yards overnight. Helicopters may be refueled at these sites, if necessary. Approximately one of the three temporary helicopter fly yards would be used for both helicopter landing and for equipment and material storage for the Proposed Action. Approximately five of the nine temporary helicopter fly yards would be used for both helicopter landing and for equipment and material storage for Connected Actions. Poles and steel cages for concrete structure foundations would be assembled on site if there is adequate space at the work site or at the staging areas, then trucked to the job site or flown in and installed via helicopter. These fly yards would be accessed using existing access roads. Because these fly yards would be located in previously disturbed areas, no additional grading would be required. However, some vegetation clearing may be conducted with gas-powered weed abatement tools to provide a safe operating environment. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Measures to reduce impacts to sensitive noise or air receptors that may result from the operation and use of helicopters are presented in Section 10.5 Noise. Helicopter models that may be used include, but are not limited to, the Erickson Air Crane, Hughes 500D, Kaman K-MAX, and Bell 206L Long Ranger.

Helicopters would typically be used between 6:30 a.m. and 4:00 p.m.—in accordance with SDG&E's general operation and maintenance guidelines, or as allowed according to biological resource or noise constraints—to deliver poles, construction material, and personnel to the ROW. Helicopters would also be used to remove materials from the ROW. The helicopters' flight paths would follow the ROW to the extent practicable and would be coordinated with the Federal Aviation Administration (FAA) where required.

Depending on final design and configuration, helicopter landing areas or pads may need to be cleared or constructed, depending on topography and the location of the pole and work areas relative to existing access roads and pads, as well as the ability to reach these areas safely by work crews on foot (generally within 300 feet).

7.1 WORKSPACE

Temporary workspaces would be required for each Proposed Action component in order to facilitate construction. These anticipated workspace requirements are described in detail in the following subsections, and are summarized in Table 8: 69 kV Power Line Temporary Work Area Summary and Table 9: 12 kV Distribution Line Temporary Work Area Summary.

7.1.0 Staging Areas

SDG&E would utilize approximately 13 staging areas within the CNF for the Proposed Action, 24 staging areas for 69 kV power line activities outside of the CNF (analyzed as Connected Actions), and seven staging areas for 12 kV distribution line activities outside of the CNF (analyzed as Similar Actions), as shown in Attachment A: Detailed Route Maps. Staging areas would be used for storage and preparation of construction materials, including replacement poles and conductors, as well as construction equipment before delivery to the individual pole work areas. The poles would be assembled at the staging areas, fly yards, and/or in pole work areas. Equipment, materials, and vehicle parking would be accommodated at these locations for the duration of construction associated with each staging area. Staging areas would be accessed using public roadways and existing access roads.

Where possible, the staging areas would be located in previously disturbed areas, requiring minimal grading or other preparation. However, some vegetation clearing may be conducted with gas-powered weed abatement tools or other hand tools to provide a safe operating environment. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Depending on substrate conditions, SDG&E may spread a layer of gravel over the staging areas to control mud or other track-out. Following construction, staging areas would be returned to pre-construction vegetative conditions consistent with the surrounding area to the extent feasible. SDG&E would install an approximately six- to eight-foot-tall temporary chain-link fence around the perimeter of the staging areas with a locked gate. Table 8: 69 kV Power Line Temporary Work Area Summary and Table 9: 12 kV Distribution Line Temporary Work Area Summary provide the required improvements, approximate dimensions, and approximate acreage required for each staging area.

SDG&E may mobilize construction trailers to staging areas during construction, which would generally be used for construction management activities. If temporary power is required, a temporary tap from an existing 12 kV distribution line would be installed to provide electric service, or a small generator would be used. The temporary power would be used for the operation of the construction trailer, construction lighting, and small hand tools.

Table 8: 69 kV Power Line Temporary Work Area Summary

69 kV Power Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
TL625	Direct-Bury Steel Pole Work Area	48	124	172	Vegetation removal and minor grading may be required.	40-foot diameter	1.4	3.5	4.9
	Self-Supported Steel Pole Work Area	24	71	95	Vegetation removal and minor grading may be required.	40-foot diameter	0.7	1.9	2.6
	Wood Pole Removal Area	6	7	12	Vegetation removal and minor grading may be required.	40-foot diameter	0.2	0.2	0.4
	Staging Area	0	14	14	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.0	14.9	14.9
	Stringing Site	12	34	46	Vegetation clearing may be required.	Varies	6.1	14.7	20.8
	Fly Yard	2	4[4]	6	Vegetation clearing may be required.	Varies	0.4	6.5	6.9
	Guard Structure	8	29	37	Vegetation clearing may be required.	3-foot diameter	<0.1	<0.1	<0.1
TL626	Direct-Bury Steel Pole Work Area	93	114	207	Vegetation removal and minor grading may be required.	40-foot diameter	2.7	3.3	6.0

[4] These fly yards also serve as staging areas.

69 kV Power Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
TL626 (cont.)	Self-Supported Steel Pole Work Area	27	45	72	Vegetation removal and minor grading may be required.	40-foot diameter	0.8	1.3	2.1
	Wood Pole Removal Area	0	1	1	Vegetation removal and minor grading may be required.	40-foot diameter	0.0	<0.1	<0.1
	Staging Area	0	2	2	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.0	0.9	0.9
	Stringing Site	8	20	28	Vegetation clearing may be required.	Varies	3.0	9.1	12.1
TL629	Direct-Bury Pole Work Area	88	187	275	Vegetation removal and minor grading may be required.	40-foot diameter	2.5	5.4	7.9
	Self-Supported Pole Work Area	49	118	167	Vegetation removal and minor grading may be required.	40-foot diameter	1.4	3.3	4.7
	Wood Pole Removal Area	0	2	2	Vegetation removal and minor grading may be required.	40-foot diameter	0.0	0.1	0.1
	Staging Area	0	5	5	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.0	9.7	9.7

69 kV Power Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
TL629 (cont.)	Stringing Site	6	48	54	Vegetation clearing may be required.	Varies	3.1	23.8	26.9
	Fly Yard	0	3	3	Vegetation clearing may be required.	Varies	0.0	1.3	1.3
	Guard Structure	4	3	7	Vegetation clearing may be required.	3-foot diameter	<0.1	<0.1	<0.1
TL682	Direct-Bury Steel Pole Work Area	23	169	192	Vegetation removal and minor grading may be required.	40-foot diameter	0.7	4.9	5.6
	Self-Supported Steel Pole Work Area	7	60	67	Vegetation removal and minor grading may be required.	40-foot diameter	0.2	1.7	1.9
	Staging Area	0	3	3	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.0	4.1	4.1
	Stringing Site	4	31	35	Vegetation clearing may be required.	Varies	2.1	12.2	14.3
	Fly Yard	0	2[5]	2	Vegetation clearing may be required.	Varies	0.0	5.2	5.2
	Guard Structure	2	27	29	Vegetation clearing may be required.	3-foot diameter	<0.1	<0.1	<0.1

[5] One of these fly yards also serves as a staging area.

69 kV Power Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
TL6923	Direct-Bury Steel Pole Work Area	18	63	81	Vegetation removal and minor grading may be required.	40-foot diameter	0.4	1.7	2.1
	Self-Supported Steel Pole Work Area	1	55	56	Vegetation removal and minor grading may be required.	40-foot diameter	<0.1	1.4	1.5
	Stringing Site	4	29	33	Vegetation clearing may be required.	Varies	0.5	5.2	5.7
	Guard Structure	0	1	1	Vegetation clearing may be required.	3-foot diameter	0.0	<0.1	<0.1

Table 9: 12 kV Distribution Line Temporary Work Area Summary

12 kV Distribution Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
C78	Direct-Bury Steel Pole Work Area	30	14	44	Vegetation removal and minor grading may be required.	20-foot diameter	0.2	0.1	0.3
	Wood Pole Removal Area	21	0	21	Vegetation removal and minor grading may be required.	20-foot diameter	0.2	0.0	0.2
	Stringing Site	0	4	4	Vegetation clearing may be required.	Varies	0.0	0.1	0.1
C79	Wood Pole Removal Area	46	18	64	Vegetation removal and minor grading may be required.	20-foot diameter	0.3	0.1	0.4
	Staging Area	1	4	5	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.3	0.2	0.5
	Fly Yard	1[6]	0	1	Vegetation clearing may be required.	Varies	<0.1	0.0	<0.1
	Stringing Site	2	23	25	Vegetation clearing may be required.	Varies	<0.1	0.2	0.3
	Underground Duct Bank	0	1	1	Vegetation removal and minor grading may be required.	<12-foot width	0	4.1	4.1
C157	Direct-Bury Steel Pole Work Area	28	29	57	Vegetation removal and minor grading may be	20-foot diameter	0.2	0.2	0.4

[6] This fly yard also serves as a staging area.

12 kV Distribution Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
					required.				
	Staging Area	1	1	2	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.1	0.2	0.3
	Stringing Site	1	2	3	Vegetation clearing may be required.	Varies	<0.1	0.1	0.2
C440	Direct-Bury Steel Pole Work Area	323	118	441	Vegetation removal and minor grading may be required.	20-foot diameter	2.3	0.8	3.1
	Wood Pole Removal Area	81	18	99	Vegetation removal and minor grading may be required.	20-foot diameter	0.6	0.1	0.7
	Staging Area	10	0	10	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.8	0.0	0.8
	Stringing Site	107	13	120	Vegetation clearing may be required.	Varies	1.7	0.3	2.0
	Underground Duct Bank	3	1	4	Vegetation removal and minor grading may be required.	<12-foot width	10.9	1.3	12.2

12 kV Distribution Line	Work Area Type	Approximate Quantity			Required Improvements	Approximate Dimensions (feet)	Total Approximate Area (acres)		
		Within CNF	Outside CNF	Total			Within CNF	Outside CNF	Total
C442	Direct-Bury Steel Pole Work Area	82	47	129	Vegetation removal and minor grading may be required.	20-foot diameter	0.6	0.3	0.9
	Staging Area	1	1	2	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	<0.1	0.3	0.4
	Stringing Site	6	4	10	Vegetation clearing may be required.	Varies	0.1	0.1	0.2
C449	Direct-Bury Steel Pole Work Area	35	13	48	Vegetation removal and minor grading may be required.	20-foot diameter	0.2	0.1	0.3
	Wood Pole Removal Area	87	15	102	Vegetation removal and minor grading may be required.	20-foot diameter	0.6	0.1	0.7
	Staging Area	0	1	1	Vegetation removal, minor grading, and gravel laydown may be required.	Varies	0.0	0.2	0.2
	Stringing Site	22	8	30	Vegetation clearing may be required.	Varies	0.3	0.1	0.4
	Underground Duct Bank	1	1	2	Vegetation removal and minor grading may be required.	<12-foot width	2.2	0.4	2.6

7.1.1 Work Areas

In addition to the staging areas discussed in the previous section, work areas would be required at each pole location and at intervals along the 69 kV power lines and 12 kV distribution lines to pull and tension the replacement conductors. SDG&E would access work areas by motor vehicle if access roads are available, or by helicopter if surface access is unavailable or infeasible due to site conditions. The following subsections describe these areas in more detail. Where possible, vehicles may remain on the ROW during the work period rather than return to the staging area each night in order to reduce potential impacts to environmental resources.

Pole Work Areas

In order to accommodate construction equipment and activities during pole replacement and reconductoring of the 69 kV power lines, additional temporary construction areas may be cleared at each pole location. Some vegetation clearing may be conducted with small graders or small front-end loaders to provide a safe operating environment. No tree removal is anticipated; however, some trees may be trimmed and some mature bushes and other desert scrub may be cleared. Each of the following would require an approximately less than 0.1-acre work area, measuring approximately 20 to 40 feet in diameter:

- approximately 768 direct-bury steel poles and 108 self-supported steel poles included as part of the Proposed Action (within USFS-administered lands),
- approximately 657 direct-bury steel poles and 349 self-supported steel poles included as part of Connected Actions, (69 kV power line activities extending outside of the CNF) and
- approximately 221 direct-bury steel poles included as part of Similar Actions (12 kV distribution line activities extending outside of the CNF).

A total of approximately 14.2 acres of temporary disturbance for the Proposed Action, 29.9 acres of temporary disturbance for Connected Actions, and 1.6 acres of temporary disturbance for Similar Actions would be required to facilitate pole installation. SDG&E would access pole work areas by motor vehicle if access roads are available, or by helicopter if surface access is unavailable or infeasible due to site conditions. After construction has been completed, pole work areas would be returned to pre-construction vegetative conditions consistent with the surrounding area to the extent feasible.

Stringing Sites

Approximately 172 stringing sites included as part of the Proposed Action, 162 stringing sites included as part of Connected Actions, and 54 stringing sites included as part of Similar Actions would be required for installing new conductors, tensioning the conductor to a pre-calculated level, and loading tractor-trailers with reels of conductor and trucks with tensioning equipment. Attachment A: Detailed Route Maps depicts the locations of these stringing sites. Each stringing site would vary in size depending on site conditions, but would result in an average temporary disturbance of approximately 0.2 acre per site. SDG&E does not anticipate grading would be required for most stringing sites. Some vegetation clearing may be conducted with gas-powered weed abatement tools, sickles, rakes, or other hand tools to provide a safe operating environment.

No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Stringing sites would be spaced approximately 7,000 feet apart for 69 kV power lines, and approximately 1,500 feet apart for 12 kV distribution lines. SDG&E would access stringing sites by motor vehicle if access roads are available, or by helicopter if surface access is unavailable or infeasible due to site conditions. Once construction has been completed, stringing sites would be returned to pre-construction vegetative conditions consistent with the surrounding area to the extent feasible.

Fly Yards

A total of three fly yards within the CNF, included as part of the Proposed Action, and nine fly yards outside the CNF included as part of Connected and Similar Actions would be utilized for helicopter take-off and landing, pole and equipment temporary storage, and pole assembly. Fueling would typically be conducted at airports or at off-site fueling locations, but may occur at fly yards. Helicopters would also utilize existing access roads and staging areas for landings. Fly yards would vary in size depending on site conditions, but would result in an average temporary disturbance of approximately 1.1 acres per fly yard—approximately 0.5 acre of total temporary disturbance within USFS-administered lands and 13.0 acres of total temporary disturbance outside of USFS-administered lands. SDG&E does not expect grading of the fly yards to be necessary; however, mowing and clearing of vegetation to ground level with gas-powered weed abatement tools, sickles, rakes, or other hand tools would be required for safe use of the areas. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Fly yards would be accessed using public roadways and existing access roads. After construction has been completed, fly yards would be returned to pre-construction vegetative conditions consistent with the surrounding area to the extent feasible.

Trench Work Areas

To accommodate the installation of the underground duct banks and vaults, temporary workspaces centered on the duct bank alignments would be established. These areas would be cleared and graded as needed to provide a safe working space for the operation of construction equipment. The duct banks would require an approximately 10- to 12-foot-wide workspace. Within USFS-administered lands, a total of approximately nine miles of workspace, requiring approximately 10.9 to 13.1 acres, would be established prior to construction. Outside of the CNF, a total of approximately four miles of workspace, requiring approximately 4.9 to 5.8 acres, would be established prior to construction. Some vegetation clearing may be conducted with gas-powered weed abatement tools, sickles, rakes, or other hand tools along the trench alignment. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Trench work areas would be accessed using public roadways and existing access roads. Following construction, trench work areas would be returned to a natural state consistent with the surrounding area to the extent feasible.

Guard Structures

A total of 14 guard structures within the CNF and a total of 60 guard structures outside of the CNFwould be required for safe road crossings during conductor stringing. Where possible, SDG&E would utilize bucket trucks as temporary guard structures to minimize temporary impacts. Where guard structures must be installed, they would consist of two approximately 1.5-foot-wide wood poles supporting a cross arm or wood pole section secured horizontally in between the wood poles. Assuming a worst-case scenario where no bucket trucks are used as guard structures, these guard structures would result in a total temporary disturbance of approximately 99 square feet (less than 0.1 acre) for 69 kV power lines within the CNF, and a total temporary disturbance of approximately 424.1 square feet (less than 0.1 acre) for 69 kV power lines outside of the CNF. SDG&E does not expect grading of the guard structure work areas to be necessary; however, mowing and clearing of vegetation to ground level with gas-powered weed abatement tools, sickles, rakes, or other hand tools may be required for safe use of the areas. No tree removal is planned; however, because construction would occur over an approximately five-year period, some tree removal may be required at the time of construction. In addition, some trees may be trimmed and some mature bushes and other scrub vegetation may be cleared. Guard structures would be accessed using public roadways and existing access roads. These areas would be returned to pre-construction vegetative conditions consistent with the surrounding area to the extent feasible following the completion of construction.

7.2 METHODS

The following subsections describe the proposed methods for each construction activity.

7.2.0 Access Road Construction

SDG&E maintains existing access roads to allow operation and maintenance of the existing electric facilities. Whenever possible, construction would utilize existing access roads. The first step in modifying the electric lines would be to evaluate existing access roads, then repair those roads where necessary. Table 10: Access Road Construction Equipment lists equipment typically utilized in the repair of access roads. To allow construction equipment and vehicles to access each site safely, these roads would generally be 12 to 15 feet wide for straight sections and up to 20 feet wide at curves. Where existing access roads need repair, a grader would be used to blade and smooth the road in accordance with the engineered specifications. Importing and compacting more stable materials on existing facilities in unstable areas may also be required. All road reconstruction would follow the specifications outlined in the 2007 SDG&E Design and Procedure Manual for Transmission Line Access Roads.

7.2.1 Clearing and Grading

Clearing and grading requirements are described for each type of work area in Section 7.1 Workspace. Section 10.1 Biological Resources provides detailed information regarding the effects of clearing on vegetation and habitat communities.

Table 10: Access Road Construction Equipment

Equipment Type	Activity	Approximate Quantity
Bulldozer	Scraping	1
Road Grader	Grading	1
Loader	Load haul trucks, transport materials	1
Haul Truck	Haul materials to/from construction site	1
Water Truck	Suppress dust	2
Mower	Trim vegetation	1
Pick-up Truck	Transport personnel	1

7.2.2 Existing Pole Removal

Once the replacement poles have been constructed, new conductor has been installed, and any third-party lines have been relocated to the replacement poles, SDG&E would remove the existing wood poles. Wood pole removal would typically require a 20- to 40-foot-diameter area around the pole. Pole-removal activities would utilize bucket trucks to remove cross arms and the conductor, or in locations where there is no truck access, helicopters would be utilized to remove poles. Poles would be completely removed where possible. The holes would be backfilled with native soil or materials similar to the surrounding area, and the site would be restored. If complete removal is not practical (e.g., if the pole cannot be pulled from the ground), the pole would be sectioned and cut at the base, or six to 12 inches below the surface, and covered with native material. If necessary to avoid impacts to sensitive resources or private property, poles may be cut off above ground level. In addition, all anchors and stub poles for 69 kV power lines would also be removed. Old poles, associated hardware, and any other debris generated from construction activities would be removed from the site and placed on flatbed trucks for recycling or disposal at an approved facility, such as the MECO yard in Pine Valley.

7.2.3 Steel Pole Installation

SDG&E would notify the Underground Service Alert a minimum of 48 hours in advance of excavating or conducting other ground-disturbing activities in order to identify buried utilities. Exploratory excavations (potholing) would also be conducted to verify the locations of existing facilities in the field, if necessary.

Direct-Bury Steel Poles

Installation of direct-bury steel poles would begin with the excavation of holes approximately 20 to 48 inches in diameter and approximately seven to 12 feet deep, depending on the height of the pole. Pole holes would be excavated using a small, truck-mounted or track-mounted drill rig if the site is land-accessible, or by platform-mounted drilling equipment if accessible only by helicopter. Rock splitting/blasting may be required if crews encounter rock while digging. Pole hole drilling would excavate between approximately 0.7 and 2.2 CY of soil per pole. New poles would be delivered to the site by a flatbed truck or by helicopter and placed in holes dug using a

machine digger and/or hand digger. The annular space between 69 kV power line poles and hole walls would then be backfilled with concrete, with an additional foot of crushed rock placed beneath the bearing plate if needed due to drainage and soil conditions. Should access or site conditions prohibit the use of a concrete backfill, 69 kV power line pole holes may be backfilled and compacted with the previously excavated soil. Any remaining excavated material would be placed around the holes or spread onto access roads and adjacent areas.

The permanent footprint for each direct-bury steel pole would range from 1.1 to 2.8 feet in diameter with an average of approximately 24 inches in diameter. As part of the Proposed Action, the installation of 768 direct-bury steel poles would result in a total temporary footprint of approximately 11.2 acres and a total permanent footprint of approximately 0.1 acre. As part of Connected Actions, the installation of 657 direct-bury steel poles would result in a total temporary footprint of approximately 18.8 acres and a total permanent footprint of approximately 0.1 acre. As part of Similar Actions, the installation of 221 direct-bury steel poles would result in a total temporary footprint of approximately 1.6 acres and a total permanent footprint of less than approximately 0.1 acre.

Self-Supported Steel Poles

Poles required to resist terminal loads would be installed on micro-pile foundations. Micro-pile foundation installation would begin with the excavation of holes approximately eight inches in diameter by approximately 10 to 40 feet deep (requiring the removal of approximately 0.1 to 0.5 CY of soil), depending on the properties of the soil or rock underlying the surface. A steel rod would be inserted into the hole, centered, and the remaining space filled with a mixture of water, cement, and sand. The steel rod would protrude above grade and would connect to the structure or a small concrete cap supporting the structure above grade. Holes for micro-pile foundations would be drilled using a small drill rig operated from the top of an elevated platform, measuring approximately eight feet by eight feet on four to six legs, and approximately six feet above grade. Depending on requirements for foundation strength, four to 12 micro-piles would be arranged in a circular pattern to take the place of a poured concrete foundation. New poles would be delivered to the site by a flatbed truck and assembled on site using a truck-mounted crane, or sections would be flown in by helicopter. If there is no truck access to the job site, poles would be partially assembled at a staging area and flown to the work area in sections by helicopter. Any remaining excavated material would be placed around the holes or spread onto access roads and adjacent areas.

The maximum permanent footprint for each self-supported steel pole would be approximately 84 inches in diameter. As part of the Proposed Action, the installation of 108 self-supported steel poles would result in a total temporary footprint of approximately 3.2 acres, and a total permanent footprint of approximately 0.1 acre. As part of Connected Actions, the installation of 349 self-supported steel poles would result in a total footprint of approximately 0.3 acre. No self-supported poles are anticipated to be required for Similar Actions.

7.2.4 Conductor Installation

SDG&E would coordinate with the CAISO to obtain all the necessary line clearances prior to beginning new conductor installation. This would ensure that SDG&E can take the electric lines out of service and redistribute power to service centers and customers.

Prior to stringing the new conductor, temporary guard structures—typically consisting of vertical wood poles with cross arms—would be installed at road crossings and crossings of energized electric and communication lines, preventing the conductors from sagging onto roadways or other lines during conductor installation. In some cases, bucket trucks may also be used as guard structures. As an alternative to using temporary guard structures, SDG&E may use flaggers to halt traffic for brief periods while overhead conductors are installed at road crossings.

Conductor stringing would begin with the installation of insulators and stringing sheaves during steel pole installation. Sheaves are rollers that temporarily attach to the lower end of the insulators to allow the conductor to be pulled along the line. A rope would be pulled through the rollers from structure to structure. The rope may be pulled through the rollers using a helicopter in instances where terrain is difficult; during this operation, the rope may drag between structures in some spans. Once the rope is in place, it would be attached to a steel or synthetic cable and pulled back through the sheaves, and into place using conventional tractor-trailer pulling equipment located within one of the designated stringing sites. The conductor would be pulled through each structure under a controlled tension to keep the conductor elevated and away from obstacles, thereby minimizing damage to the line and protecting the public.

In some cases, sleeves or splices may be installed on the 69 kV power lines. This might occur when stringing operations slightly damage the conductor, or if the conductor is not long enough and needs to be joined to another segment. If the conductor is damaged, a section of the conductor may be replaced or a repair sleeve may be wrapped around the outside of the conductor and pressed into place to protect the conductor. SDG&E would utilize full-tension splices, or compression splices, when the conductor is damaged too severely for a repair sleeve; when the conductor is not long enough to span between structures; or if stringing sites are spread too far apart. During full-tension splices, the two ends of the conductor are connected with the use of heavy-duty vices.

After the conductor is pulled into place, the sag between the structures would be adjusted to a pre-calculated level. The conductor would then be attached to the end of each insulator, the sheaves would be removed, and the vibration dampers and other hardware accessories would be installed. The lowest 69 kV conductor would be installed with a minimum ground clearance of approximately 30 feet, and 25 feet where there is pedestrian access only. The lowest 12 kV conductor would be installed with a minimum ground clearance of 25 feet, and 17 feet where there is pedestrian access only. SDG&E would accomplish the removal of existing conductors in a method similar to the reverse of the conductor installation process. The old conductors would be wound onto wooden spools, placed on flatbed trucks, and recycled at an approved facility, such as the MECO yard in Pine Valley.

7.2.5 Underground Duct Package and Installation

Prior to trenching for underground distribution lines, SDG&E would notify other utility companies (via Underground Service Alert) to locate and mark existing underground utilities along the proposed underground alignments. Exploratory excavations (potholing) would also be conducted to verify the locations of existing facilities in the field, if necessary.

Trenches would be excavated using a backhoe, saw cutter, and other trenching equipment as warranted by site conditions. The depth of the trench would be determined by localized

topography and potential conflicts, but is anticipated to be approximately five feet deep, with a width of approximately 2.5 feet. Dewatering of the trenches is not anticipated, but may be required based on weather conditions during construction. If trench water is encountered, trenches would be dewatered using a portable pump and disposed of in accordance with applicable regulations and permits. Once installed, the depth from grade to the top of the concrete duct package would be approximately 2.5 feet, and the depth from grade to the top of the conduit in the duct package would be approximately three feet. The trench alignment would proceed to the riser pole and support the transition from the underground to overhead conductors. Five new riser poles included as part of the Proposed Action and three new riser poles included as part of Similar Actions would be installed with the same equipment previously described for installation of the steel poles. Table 11: 12 kV Distribution Line Underground Trenching Summary provides the approximate dimensions, footprint, and number of vaults to be used for each underground segment of the Proposed Action and Similar Actions.

The underground distribution lines would be installed in a duct bank containing two to three 4- to 5-inch-diameter PVC conduits encased in concrete or placed in sand or native fill. A typical drawing of the proposed duct bank has been included in Attachment C: Typical Drawings. In order to facilitate the pulling and splicing of the cables, underground concrete splice vaults measuring approximately eight feet long, 5.5 feet wide, and seven feet deep would be installed in line with the underground duct banks every approximately 500 to 800 feet. These vaults would also provide access to the underground cables for maintenance, inspection, and repair during operation.

During trenching activities, the trench would be widened at the underground vault locations to allow for approximately two feet of additional clearance. The pre-formed, steel-reinforced, precast concrete splice vaults would be transported to the associated work areas on flatbed trucks and lowered into place using small, truck-mounted cranes. The splice vaults would then be connected to the underground duct banks before being covered with at least three feet of compacted fill. The trench alignment would proceed to the riser pole and support the transition between the underground and the overhead conductors. After installation of the concrete duct bank, approximately 18,040.0 CY of excavated trench material would be used to backfill the trench as part of the Proposed Action, and approximately 8,017.8 CY of excavated trench material would be used to backfill the trench as part of Similar Actions. SDG&E does not anticipate that engineered backfill would be required. The remainder of the excavated material would be spread across the ROW or access roads, if possible, or disposed of at an approved facility, such as the MECO yard in Pine Valley. SDG&E does not anticipate encountering contaminated soils based on the results of the Phase I Environmental Site Assessment conducted for the Proposed Action.

Table 11: 12 kV Distribution Line Underground Trenching Summary

Distribution Line	Approximate Length (miles)			Approximate Width (feet)	Approximate Footprint (acres)			Approximate Number of Vaults		
	Within CNF	Outside CNF	Total		Within CNF	Outside CNF	Total	Within CNF	Outside CNF	Total
C79	0.0	2.8	2.8	2.5	0.0	0.9	0.9	0	19	19
C440	7.5	0.8	8.4	2.5	2.3	0.3	2.5	51	4	55
C449	1.5	0.3	1.8	2.5	0.4	0.1	0.5	10	2	12
Total	**9.0**	**4.0**	**13.0**	**- -**	**2.7**	**1.2**	**3.9**	**61**	**25**	**86**

After trenching activities for the underground duct banks have been completed, the PVC cable conduits would be installed (and separated by spacers), and concrete would be poured around the conduits to form the duct banks. As part of the Proposed Action, approximately nine miles of undergrounding for lines C440 and C449 would result in the temporary excavation of approximately 22,000 CY of soil and other native materials. As part of Similar Actions, approximately four miles of undergrounding for lines C79, C440, and C449 would result in the temporary excavation of approximately 9,777.8 CY of soil and other native materials. Upon completion of the duct bank, the trenches would be backfilled with these materials and the cables would be installed in the duct banks. Each cable segment would be pulled into the duct bank and terminated at the riser pole where the line converts to an overhead configuration. To pull the cable through the ducts, a cable reel would be placed at one end of the section and a pulling rig at the other end. A larger rope would then be pulled into the duct using a fish line and attached to the cable puller, which pulls the cable through the duct. Lubricant would be applied to the cable as it enters the duct to decrease friction during pulling. After installation of the conductor, the ground surface would be restored to near pre-construction conditions and repaved or reseeded as appropriate.

7.2.6 Cleanup and Post-Construction Restoration

All areas that are temporarily disturbed around each structure, areas used for conductor pulling, and all staging areas would be restored to pre-construction conditions, to the extent practicable, following installation of the replacement poles and reconductoring of the lines. This would include the removal of all construction materials and debris, returning areas to their original contours, and reseeding, as needed.

7.3 EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION

Approximately 159.1 acres of grading would occur within USFS-administered lands as part of the Proposed Action, including minor grading and vegetation clearing associated with the use of temporary construction work areas and access roads. Approximately 139.2 acres of grading would occur in connection with 69 kV power line facilities outside of the CNF as Connected Actions, including minor grading and vegetation clearing associated with the use of temporary construction work areas and access roads. Approximately 11.6 acres of grading would occur in connection with distribution line facilities outside of the CNF as Similar Actions, including minor grading and vegetation clearing associated with the use of temporary construction work areas and access roads.

Because ground disturbance would be greater than one acre, SDG&E would obtain coverage under the California State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-009-DWQ (General Permit). In order to obtain coverage under the permit, SDG&E would develop and submit Permit Registration Documents, including a Notice of Intent, SWPPP, risk assessment, site map, certification, and annual fee to the SWRCB prior to initiating construction activities.

The SWPPP would identify BMPs for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs would then be implemented and monitored by a qualified SWPPP practitioner. Construction waste would be

disposed of promptly at the MECO yard in Pine Valley or at another approved location to prevent these materials from polluting waterways.

7.4 FIRE PREPAREDNESS

During construction activities for the Proposed Action, SDG&E would comply with all applicable state and federal regulations, requirements, and procedures consistent with SDG&E Electric Standard Practice (ESP) No. 113-1 Wildland Fire Prevention & Fire Safety (July 2012) and SDG&E Electric Distribution Operation (EDO) Procedure 3017 EDO's Requirements During SDG&E Fire Conditions (September 2009). These two existing guidance documents provide background, procedure, and guidance information concerning electric line-related activities in areas where fire hazards exist, as described in the following sections. SDG&E would continue to implement these practices and procedures across all construction activities for the Proposed Action to minimize the potential for fire to occur as a result of construction of the Proposed Action. Additional existing procedures that would be implemented during operation and maintenance of the Proposed Action are described in Section 10.3 Fire Hazards of this Preliminary POD.

7.4.0 ESP No. 113-1 Wildland Fire Prevention & Fire Safety (July 2012)

This ESP is applied to all low complexity construction projects, as well as operation and maintenance activities, to set standards and requirements regarding how activities and fire conditions are evaluated, what restrictions must be put into place depending on anticipated fire conditions, and what tools, equipment, and other measures must be on site or in place according to these anticipated fire conditions. The ESP determines potential fire conditions based on National Weather Service (NWS) criteria, including Red Flag Warning (RFW) conditions, as well as SDG&E meteorological evaluation and assessment. Additionally, the ESP includes consideration of the USFS' Project Activity Level (PAL) designations, which were designed to help fire and timber resource managers establish the level of industrial precaution for the following day. Although intended for the timber industry, SDG&E includes these anticipated fire hazard conditions and corresponding activity restrictions, and would continue to comply with the PAL designations as a part of standard operating procedures.

In addition to keeping at each work area, or with each vehicle, the standard fire prevention and response equipment identified in Section 4.3 Tools and Equipment of the ESP, SDG&E would implement for the Proposed Action the standard fire prevention and fire safety measures included in the ESP. These measures include:

- Prohibiting vehicle idling or parking in areas of brush, grass, or vegetation litter
- Utilizing a fire patrol on high fire danger days to verify compliance with the Proposed Action's fire plan, observing activities for consistence with the fire prevention and safety measures, and checking each work area following the day's activities
- Conducting standard wind monitoring as reporting this information according to standard procedures

- Providing appropriate vegetation clearance or reduction around particularly hazardous work activities or work areas

- Ensuring exhaust systems are clear of vegetation and other combustible debris before operating portable equipment

- Wetting down adjacent vegetation when performing work that could create fires.

The ESP also includes measures concerning fire safety, such as the use of personal protective equipment and the evaluation of safety zones and escape routes when working in wildland areas during high fire danger days. During a declared RFW, SDG&E would implement further restrictions from the ESP, including:

- All electric lines within the SDG&E wildland fire area will not be tested without patrol for the duration of the RFW
- All non-critical line clearance tree pruning and removal activities will cease (hand pruning activities are permissible)
- All blasting will be discontinued
- No smoking will be permitted
- Vehicular travel will be restricted to cleared roads except in case of an emergency; no vehicles with hot exhaust systems will be driven over or parked in grassy areas

7.4.1 EDO Procedure 3017 EDO's Requirements During SDG&E Fire Conditions (September 2009)

EDO 3017 defines restrictions that apply to SDG&E's activities in high fire risk areas and the SDG&E Wildland Fire Area and is updated annually to include any changes to the mapped extents of these areas or adjustments to standard procedures that may have occurred. This document also defines standard, summer, and elevated operating conditions and the corresponding procedures for reclosing relay functions and fault testing circuits during these various operating conditions. According to EDO 3017, when an RFW has been declared, all reclosing relays must be turned off on all circuit breakers and service restorers according to which NWS Fire Weather Zone is included in the RFW.

7.5 EQUIPMENT

Table 10: Access Road Construction Equipment summarizes equipment used to maintain existing access roads and construct new roads, if needed, based on final design and project approval. Attachment E: Construction Equipment Summary provides the equipment that would be used to construct or maintain each Proposed Action component, Connected Actions, and Similar Actions, along with its approximate duration of use. In addition to this equipment, SDG&E expects pick-up trucks and worker vehicles to travel daily to and from the work site of each Proposed Action, Connected Actions, and Similar Actions component. Delivery trucks would likely travel to and from the staging areas 12 times per week, or up to 24 times per week during peak activities. Approximately one water truck, completing an average of two trips per day, may be required to deliver water to each active construction site for dust control,

compaction, and fire protection. All vehicles and equipment would be used in accordance with SDG&E's Wildland Fire Prevention and Fire Safety Standard Practice.

7.6 SCHEDULE

SDG&E anticipates that construction of the entire Proposed Action as well as all Connected Actions and Similar Actions would take approximately five years from initial site development through final energization, including phasing as appropriate to avoid potential impacts to biological resources. Table 12: Proposed 69 kV Power Line Construction Schedule and Table 13: Proposed 12 kV Distribution Line Construction Schedule summarize the length of time and activities anticipated to construct each electric line.

Upon USFS approval of the Proposed Action, SDG&E would commence with construction of the distribution line fire hardening projects located within the CNF. SDG&E would proceed with construction of the 69 kV power line fire hardening projects as soon as CPUC approval of those projects is received, Construction activities would generally be limited to no more than 12 hours per 24-hour period, six days per week, as needed. On occasion, construction activities may be required at night or on weekends to minimize impacts to schedules and to facilitate cutover work, and as required by other property owners or agencies, such as the CAISO, which may require outages of certain portions of the electric system. If construction occurs outside of the hours allowed by San Diego County, SDG&E would follow its established protocols and would provide advance notice by mail to all property owners within 300 feet of planned construction activities. The announcement would state the construction start date, anticipated completion date, and hours of construction.

7.7 PERSONNEL

Table 14: Peak 69 kV Power Line Construction Personnel and Table 15: Peak 12 kV Distribution Line Construction Personnel provide the positions and number of personnel anticipated to be on site for each electric line during peak construction. Construction of each power line would be phased according to the schedule shown in Table 12: Proposed 69 kV Power Line Construction Schedule and Table 13: Proposed 12 kV Distribution Line Construction Schedule. Removal of existing poles would occur immediately following new conductor installation unless third-party facilities are present, which may temporarily delay existing pole removal by approximately 30 to 60 days until the third party relocates its facilities.

After the completion of construction, the electric lines would be operated and maintained by SDG&E at existing staffing levels. No additional staff would be necessary to maintain the electric lines.

Table 12: Proposed 69 kV Power Line Construction Schedule

69 kV Power Line	Approximate Duration of Construction (Number of crew days[7])	Anticipated Construction Period (Months)
TL625B	270	7
TL625C	430	9
TL625D	210	5
TL626A	340	8
TL626B	290	7
TL629A	400	8
TL629C	210	5
TL629D	170	4
TL629E	280	11
TL682	580	9
TL6923	330	8

Table 13: Proposed 12 kV Distribution Line Construction Schedule

12 kV Distribution Line	Approximate Duration of Construction (Number of crew days[7])	Anticipated Construction Period (Months)
C78	50	4
C79 Overhead	35	4
C79 Underground	125	6
C157	85	4
C440 Overhead and Underground	685	18
C442	165	6
C449	225	6

[7] Crew days are equivalent to one crew operating for 10 hours within one calendar day. Because multiple crews may be operating during a single calendar day, there are typically multiple crew days per calendar day.

Table 14: Peak 69 kV Power Line Construction Personnel

69 kV Power Line	Approximate Number		
	Foreman	Operator	Lineman
TL625B	3	10	20
TL625C	3	10	20
TL625D	3	10	20
TL626A	3	10	20
TL626B	3	10	20
TL629A	3	10	20
TL629C	3	10	20
TL629D	3	10	20
TL629E	3	10	20
TL682	3	10	20
TL6923	3	10	20

Table 15: Peak 12 kV Distribution Line Construction Personnel

12 kV Distribution Line	Approximate Number			
	Foreman	Operator	Lineman	Underground Crew
C78	1	6	2	0
C79	1	2	2	5
C157	1	3	2	0
C440	1	2	2	6
C442	1	5	2	0
C449	1	2	2	7

8 – ONGOING OPERATION AND MAINTENANCE ACTIVITIES

This section describes the standard operation and maintenance activities and procedures that SDG&E currently conducts and would continue to conduct, both pending agency review of the Proposed Action and after the Proposed Action and all Connected Actions and Similar Actions are constructed and in service. For decades, SDG&E has continuously operated the facilities that would be modified by the Proposed Action, Connected Actions, and Similar Actions described in this Preliminary POD. During the MSUP review and approval process, SDG&E must continue to operate and maintain its existing facilities to ensure continued electric service and reliability. Operation and maintenance activities that would continue to occur during the pendency of the MSUP review and approval process may range from routine inspections and preventive maintenance to potential emergency repair or replacement work. Work conducted by SDG&E during the pendency of the MSUP review would comply with SDG&E's standard operation and maintenance practices and protocols, and would be subject to any required approvals or authorizations. Consistent with SDG&E's existing practice, SDG&E would continue to coordinate with and notify the USFS of work activities within the CNF. Following the completion of all construction activities, SDG&E would continue to conduct these operation and maintenance activities consistent with SDG&E's existing protocols and procedures, including SDG&E's Subregional NCCP and Low-Effect Habitat Conservation Plan (HCP), which is described in greater detail in Section 10.1 Biological Resources.

SDG&E would continue to regularly inspect, maintain, and repair the electric lines pending agency review and following completion of Proposed Action construction activities. These activities range from routine preventive maintenance to emergency repairs and replacements required to maintain service continuity and reliability. SDG&E performs aerial and ground inspections of electric line facilities and patrols aboveground components on a regular basis in compliance with CPUC General Order 165. Inspection for corrosion, equipment misalignment, loose fittings, and other common mechanical problems is performed every three years (per CPUC General Order 165) for overhead 69 kV power lines. SDG&E inspects underground electric lines every three years from inside the concrete splice vaults.

SDG&E maintains a working space of a minimum of 10 feet in diameter around all steel poles. SDG&E keeps these areas clear of shrubs and other obstructions for inspection and maintenance purposes, consistent with Public Resources Code (PRC) Section 4293 and CPUC General Order 95 requirements. In addition, vegetation that has a mature height of 15 feet or taller is not allowed to grow within 10 horizontal feet of any conductor within the ROW for safety and reliability reasons per CPUC General Order 95.

The following discussion provides an overview of the types of activities that currently take place for existing poles and would continue to occur after construction of the Proposed Action. Unless otherwise noted, all vehicles would have rubber tires. These activities are considered part of the environmental baseline and environmental setting for the Proposed Action.

8.0 RIGHT-OF-WAY REPAIR

ROW repair methods include grading previously built (e.g., road re-establishment) and existing access roads and spot-repair of erosion sites where access roads may be subject to scouring. SDG&E performs ROW repairs as necessary, usually following seasonal rains, and requires the use of a four-wheel-drive pick-up truck, a motor grader, a backhoe, and/or a skid steer loader. The skid steer loader has steel tracks, while the remaining equipment has rubber tires.

8.1 POLE BRUSHING

In accordance with fire break clearance requirements stipulated in PRC 4292 and California Code of Regulations, Title 14, Section 1254, SDG&E would trim or remove vegetation in the area surrounding 69 kV power line poles to reduce potential fire and other safety hazards. Dead, diseased, or dying limbs and foliage from living, sound trees are removed from approximately eight feet above ground to the horizontal plane of the highest point of conductor attachment; dead, diseased, or dying trees are also removed. From ground level to approximately eight feet above ground level, SDG&E removes flammable trash, debris, or other materials; grass; herbaceous and brush vegetation; and limbs and foliage of living trees. For all steel poles, SDG&E clears to bare ground an approximately five-foot-radius around the pole, and trims all encroaching trees or other vegetation within approximately 10 feet of the pole. Three-person crews typically conduct this work using mechanical equipment consisting of chain saws, weed trimmers, rakes, shovels, and brush hooks. SDG&E typically inspects poles on an annual basis to determine if brushing is required.

8.2 APPLICATION OF PESTICIDES

Application of pesticides—including both herbicides and insecticides—may be necessary as part of continuing operations and maintenance activities of the Proposed Action; consistent with SDG&E Safety Standard G8367 Pesticide Management, SDG&E may use one or more of the following 13 herbicides during pole brushing or other operation and maintenance activities where vegetation removal is necessary for fire safety reasons:

- Rodeo
- Roundup
- Roundup Pro
- Accord Concentrate
- Gallery 75DF
- Garlon 4 Ultra
- Landmark XP
- Milestone
- Pathfinder
- Payload
- Stalker
- Spra-Kil SK-26
- Dimension Ultra 40

Application of pesticides generally requires one person in a pick-up truck and takes only minutes to spray around the base of the pole—within a radius of approximately 10 feet for 12 kV distribution poles and 20 feet for 69 kV power line poles—subject to the vegetation clearance requirements described in PRC 4292. The employee either walks from the nearest access road to apply the herbicide or drives a pick-up truck directly to each pole location, as access permits.

Additionally, the application of insecticides may be needed during construction or operation and maintenance activities where the presence of insects poses a potential risk to worker safety. Consistent with SDG&E Safety Standard G8367 Pesticide Management, SDG&E may use one or more of the following insecticides:

- Hit Squad Industrial Insecticide
- Blast 'Em (Wasp & Hornet Killer)

8.3 EQUIPMENT REPAIR AND REPLACEMENT

Poles or structures may support a variety of equipment, such as conductors, insulators, switches, transformers, lightning arrest devices, line junctions, and other electrical or safety equipment. SDG&E may need to add, repair, or replace this type of equipment in order to maintain uniform, adequate, safe, and reliable service. SDG&E may remove and replace an existing structure with a larger and stronger structure at the same location or a nearby location due to damage or changes in conductor size, including under emergency conditions. Equipment repair or replacement generally requires a crew to gain access to the location of the equipment to be repaired or replaced. If no vehicle access exists, the crew and all necessary materials are flown in by helicopter.

8.4 INSULATOR WASHING

In some areas prone to atmospheric moisture, condensation combined with dust on porcelain insulators can create an electrical discharge. This discharge, known as "arcing," may cause outages. SDG&E can prevent the outages caused by this condition by washing the insulators routinely. The process of washing insulators involves driving a washer truck to within six feet of the facility and using a high-pressure hose to spray deionized water at the insulators. A two-person crew driving a washer truck would be required for this operation. The space needed at each location is approximately 30 feet by 40 feet. Typically, approximately 30 minutes is required to wash and set up each insulator pole set. SDG&E typically inspects insulators on an annual basis to determine if washing is required.

8.5 TREE TRIMMING

Tree trimming plays a critical role in maintaining a safe and reliable electrical system. Tree limb contact with electric lines may cause power outages. Fast-growing or diseased, dying, or dead trees may require removal during operation and maintenance of the electric lines to prevent circuit interruptions or reduce potential fire hazards. Regular inspection, regardless of habitat type, is necessary to maintain proper tree-to-conductor clearances consistent with PRC Section 4293 and CPUC General Order 95. SDG&E typically conducts tree-trimming activities with a two- to three-person crew, a one-person aerial lift truck, and a chipper trailer. Although the time

required to complete tree trimming varies according to location, SDG&E can complete typical tree-trimming activities in one day. SDG&E annually inspects trees in the SDG&E service area for trimming needs.

8.6 USE OF HELICOPTERS

SDG&E uses helicopters in the visual inspection of overhead facilities. SDG&E patrols each electric line several times a year via helicopter. SDG&E may also use helicopters to deliver personnel and equipment, position poles and structures, string lines, and position aerial markers, as required by FAA regulations. SDG&E's Transmission and Distribution Engineering departments use helicopters for patrolling electric lines during trouble jobs (e.g., outages or service curtailments) in areas that have no vehicle access or rough terrain. For patrolling during such jobs, the helicopter picks up the patrolman at the district yard and lands within a reasonable, safe walking distance of the structures targeted for service. For new construction or maintenance, the helicopter needs a flat staging area for fueling and picking up material, equipment, and personnel. The area required for small helicopter staging is generally 100 feet by 100 feet. The size of the crew needed varies from four to 10 crew members, two helicopter staff, and a water truck driver to apply water for dust control at the staging area. Most helicopter operations take only one day.

8.7 FIRE PROTECTION

SDG&E would continue to implement ESP No. 113-1 and EDO 3017, as described in Section 7.4 Fire Preparedness, during operation and maintenance. Additionally, SDG&E would comply with all applicable state and federal regulations, requirements, and procedures when conducting operation and maintenance activities within the CNF. All operation and maintenance activities performed within the CNF would be subject to a fire plan specific to the MSUP. This plan would be consistent with existing SDG&E fire plans for the CNF and would follow any applicable PAL designations, requiring monitoring and communication regarding predicted PAL indices the day prior to any activities in areas within or adjacent to wildland fuels and vegetation in the SDG&E High-Risk Fire Area, as discussed in Section 10.3 Fire Hazards.

9 – REQUIRED PERMITS AND AUTHORIZATIONS

Environmental review under NEPA is required for the Proposed Action because the USFS' approval of the Proposed Action constitutes a major federal action. An EA for the issuance of an MSUP was completed in 2009, after which the initial Proposed Action was expanded as described in this Preliminary POD and the accompanying SF-299 Application. The USFS has previously concluded that an EIS is required to evaluate the proposed fire hardening activities that are now included in the Proposed Action. The EIS would inform the decision-makers and the public of the potential environmental impacts that may result from the Proposed Action. The USFS would also conduct Section 106 consultation under the National Historic Preservation Act (NHPA) of 1966 for the protection of historic properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the NRHP.

In addition to USFS approval and NEPA review, the proposed fire hardening of five 69 kV power lines is subject to CPUC review. To streamline CPUC and public review of these proposed activities, SDG&E anticipates filing a request for authorization to construct the five 69 kV power lines (each of which is considered a separate project) on one application for a Permit to Construct. CPUC approval is not required for any of the proposed 12 kV distribution line work, either within or outside of the CNF.

SDG&E would obtain all required approvals for all construction activities from federal, state, and local agencies, as applicable. Table 16: Anticipated Permits and Approvals lists the potential permits and approvals that may be required for these construction activities.

10 – PRELIMINARY ENVIRONMENTAL RESOURCE EVALUATION

In order to further supplement the SF 299, the following subsections describe the potential for, and proposed corresponding mitigation to address, potential impacts relating to air quality, biological resources, cultural resources, fire hazards, hydrology, noise, transportation and traffic, wilderness and recreation, and visual resources. Construction of the Proposed Action may temporarily impact each of these environmental resources, but these impacts would be fully mitigated by incorporating existing SDG&E practices and protocols (such as the NCCP) and the applicant-proposed measures (APMs) provided in the following sections. To the extent operation and maintenance of the Proposed Action would occur in the same location as existing facilities and would have the same or substantially the same potential impacts, frequency, and duration as operation and maintenance activities of the existing facilities, such activities are incorporated into the existing environmental setting and baseline for assessing potential impacts.

Because the Proposed Action would replace existing electric lines, and SDG&E would operate and maintain these electric lines in a manner similar to that which is currently prescribed, no impacts to environmental resources are anticipated from operation and maintenance of the electric lines. Similarly, because the electric lines, access roads, and other appurtenant facilities included in the Proposed Action are existing facilities, and because the Proposed Action would not increase system capacity or open new areas to development, there would be no growth-inducing impacts to the surround area as a result of the Proposed Action.

10.0 AIR QUALITY

The San Diego County Air Pollution Control District (SDAPCD) is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Air quality is determined by measuring ambient concentrations of criteria pollutants, which are air pollutants for which acceptable levels of exposure can be determined and for which standards have been set. The degree of air quality degradation is then compared to the current National Ambient Air Quality Standards and California Ambient Air Quality Standards (NAAQS and CAAQS). Because of unique meteorological conditions in California, and because of differences of opinion by medical panels established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA), there is diversity between State and federal standards currently in effect in California. In general, the CAAQS are more stringent than the corresponding NAAQS.

Table 16: Anticipated Permits and Approvals

Agency	Permit/Consultation/Approval	Jurisdiction/Purpose
Federal Agencies		
USFS	NEPA compliance	Issuance of a federal permit
	MSUP	Consolidate prior use authorizations and easements for electric facilities on federal lands
	SF 299	Amend prior authorizations on federal lands
	National Historic Preservation Act Section 106 Review	Activities on federal land that may affect cultural or historic resources
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Nationwide or Individual Permit	Fill of waters of the U.S.
FAA	Permission to Fly Helicopters	Activities that may affect air traffic
State Agencies		
CPUC	Permit to Construct	Construction of facilities between 50 and 200 kV
SWRCB	National Pollutant Discharge Elimination System – Construction Storm Water Permit	Storm water discharges associated with construction activities disturbing more than one acre of land
California Department of Fish and Game (CDFG)	California Fish and Game Code Section 1600 Streambed Alteration Agreement	Activities that would disturb the bed or bank of a jurisdictional water body
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Activities authorized by federal agencies that may affect state water quality
California Department of Transportation (Caltrans)	Encroachment Permit	Construction of facilities within, under, or over state highway ROW
Local Agencies		
San Diego County	Encroachment Permit	Construction of facilities within, under, or over county road ROW

Each geographic area is designated by either the U.S. EPA or the CARB as a nonattainment area if violations of the ambient air quality standards are persistent. San Diego County is classified as a nonattainment area for the State ozone standard, and like nearly every other area in the State of California, it is a nonattainment area with respect to particulate matter (PM) less than 10 microns in diameter (PM_{10}). San Diego County was successfully designated as an attainment area for the federal 1-hour ozone standard in 2003, but since the U.S. EPA established designations for the 8-hour ozone standard, the County has since been designated as a nonattainment area for this newer federal standard. The Proposed Action would have significant impacts on air quality if activities associated with the Proposed Action would:

- Cause or contribute to any new violation of NAAQS or CAAQS in the project area
- Interfere with the maintenance or attainment of NAAQS or CAAQS
- Increase the frequency or severity of any existing violations of NAAQS or CAAQS
- Delay the timely attainment of any standard, interim emission reduction, or other air quality milestone promulgated by the U.S. EPA, the CARB, or a local air quality agency.

In federal nonattainment areas, the federal General Conformity rule (42 U.S. Code Section 7606(c), Code of Federal Regulations, Title 40, Section 51, Subpart W) would provide additional significance criteria. In San Diego County, there are no applicable General Conformity thresholds for pollutants other than ozone precursors and PM_{10} because these areas attain the federal ambient air quality standards for all other pollutants. The General Conformity applicability *de minimis* threshold for volatile organic compounds (VOCs) in the Proposed Action area is 100 tons/year; no threshold exists for PM_{10}.

These thresholds apply to emissions in a federal nonattainment or maintenance area caused by a federal action. Per Section 176(c) of the Clean Air Act Amendments of 1990, the USFS must make a determination of whether the Proposed Action (i.e., federal action) "conforms" to the applicable State Implementation Plan (SIP) (i.e., the SDAPCD ozone SIP). However, if the total direct and indirect emissions caused by a Proposed Action are less than the General Conformity rule *de minimis* emission thresholds, the Proposed Action would be exempt from performing a comprehensive Air Quality Conformity Analysis, because it would be presumed to conform to the SIP within the nonattainment areas. The final General Conformity determination would be made by the USFS prior or to or in conjunction with approval of the Proposed Action. The estimated nonattainment area pollutant emissions, the preliminary findings with regards to the General Conformity *de minimis* levels, and the applicability of a full conformity determination are described in the following sections.

For purposes of the California Environmental Quality Act (CEQA), the SDAPCD has also established thresholds of significance for air quality impacts to be used when assessing potential pollutant emissions. Based on criteria applied in or adapted from the SDAPCD regulations for stationary sources (pursuant to Rule 20.1, *et seq*.), SDG&E assumes the Proposed Action's impacts on criteria air pollution would be significant if it does the following during construction:

- result in direct emissions of more than 55 pounds per day (lbs/day) of PM less than 2.5 microns in diameter ($PM_{2.5}$);
- result in direct emissions of more than 100 lbs/day of PM_{10};

- result in direct emissions of more than 250 lbs/day of nitrogen oxides (NO_x);
- result in direct emissions of more than 250 lbs/day of sulfur oxides;
- result in direct emissions of more than 550 lbs/day of carbon monoxide (CO); or
- result in direct emissions of more than 75 lbs/day of VOCs.[8]

10.0.0 Proposed Action

The primary source of criteria air pollutant emissions during construction activities for the Proposed Action would stem from the use of heavy equipment, including crew trucks, compressors, drilling rigs, and helicopters. A list of equipment anticipated to be used during construction is provided in Attachment E: Construction Equipment Summary. Each phase of construction would require different equipment, and often multiple pieces of equipment would be required to operate simultaneously. In addition, many pieces of equipment require engine-idling to provide energy for equipment operation, such as for truck-mounted drills or compressors. Helicopters would be used to deliver personnel and equipment and position poles and structures where truck access is not available, and would also be used to string lines and position aerial markers where necessary.

Due to the large number of poles to be removed and replaced and the significant amount of construction required to underground approximately nine miles of distribution line, a large number of crews would be required to work on multiple electric lines throughout the approximate five-year construction schedule. Because of the overlapping construction schedules for these lines and the amount of equipment required to operate during construction activities, pollutant emissions are anticipated to occur but would be dispersed throughout the air basin according to the specific locations of construction.

Based on the currently anticipated schedule and construction equipment required for the Proposed Action, the Proposed Action would emit a maximum of approximately 4.2 tons/year of VOCs, well below the General Conformity applicability *de minimis* threshold for VOCs. The Proposed Action's largest emission would be of NO_x; the maximum annual emission of this pollutant would be approximately 33.0 tons/year, also well below the federal threshold of 100 tons/year that would be applied were San Diego County a nonattainment area for this pollutant. As stated previously, there are no General Conformity thresholds for CO, $PM_{2.5}$, and PM_{10}.

Pollutant emissions resulting from heavy equipment used during construction are anticipated to exceed levels established by the SDAPCD for VOCs, NO_x, CO, and $PM_{2.5}$. Table 17: SDAPCD Criteria Air Pollutant Exceedances During Construction – Proposed Action lists the criteria air pollutants for which applicable thresholds would be exceeded during construction of the Proposed Action, as well as the approximate number of days during which exceedances would occur. The maximum emissions rate (lbs/day) during the approximate five-year construction schedule has also been included.

[8] In the absence of lbs/day VOC significance thresholds in the SDAPCD's rules, VOC thresholds were derived from the County of San Diego Land Use and Environment Group's Draft Guidelines for Determining Significance and Report Format and Content Report Format and Content Guidance Requirements, Air Quality.

Table 17: SDAPCD Criteria Air Pollutant Exceedances During Construction – Proposed Action

Pollutant	Threshold (lbs/day)	Maximum (lbs/day)	Approximate Number of Weeks Exceeded
VOCs	75	136.56	19
NO_x	250	1,082.4	55
CO	550	571.08	1
$PM_{2.5}$	55	63.18	2

In addition to emissions from heavy equipment use, wood-to-steel pole replacement would involve a relatively small amount of daily ground disturbance, which would contribute to an increase of fugitive dust in the vicinity of the Proposed Action. The majority of ground disturbance and the potential for fugitive dust would result from undergrounding portions of C440 and C449 where, due to local geologic conditions, crews would likely be required to excavate through bedrock located beneath the surface of the roads where the undergrounding is proposed to occur. According to the design of the Proposed Action, however, a total of only approximately 159.1 acres of temporary ground disturbance would occur from all Proposed Action construction activities over approximately five years. Because ground disturbance would be relatively small in size at each construction location and fugitive dust emissions would be limited to the areas surrounding the Proposed Action work areas, impacts from $PM_{2.5}$ resulting from fugitive dust emissions are anticipated to be minor.

There is also the potential for air quality impacts from airborne dust to occur as a result of the use of access roads. However, airborne dust generated during access road use would be limited to the immediate vicinity of the access road, and would occur only instantaneously as vehicles traverse the access roads. In order to reduce potential impacts to air quality from the Proposed Action, SDG&E would implement the following APMs during construction:

- APM-AIR-01: To the extent feasible, unnecessary construction vehicle and idling time would be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project would apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine would be shut off.

- APM-AIR-02: To control fugitive dust, SDG&E would apply water or non-toxic soil stabilizers on all unpaved access roads, staging areas, and other work areas if construction activity causes persistent visible emissions of fugitive dust beyond the work area; cover loads in haul trucks or maintain at least six inches of free-board when traveling on public roads; and apply non-toxic soil stabilizers or water to form and

maintain a crust on inactive construction areas (disturbed work areas that are unused for four consecutive days).

- APM-AIR-03: Traffic speeds on unpaved roads would be limited to 15 miles per hour (mph).

- APM-AIR-04: SDG&E would maintain construction equipment per manufacturing specifications and use low-emission equipment as follows: all off-road and portable construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1), unless such an engine is not available for a particular item of equipment. In the event that a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless the engine manufacturer indicates that the use of such devices is not practical for that particular engine type.

Following construction, operation of the electric lines would not directly emit any criteria air pollutants. The only operational emissions associated with the Proposed Action would be from crew trucks, helicopters, and other equipment accessing the electric lines to perform periodic inspections and maintenance activities. These inspection and maintenance activities currently occur annually and are not anticipated to increase in frequency following the completion of the Proposed Action. As a result, the Proposed Action is not expected to exceed the SDAPCD's operational emission thresholds, and no operational impact to air quality is anticipated.

10.0.1 Connected Actions

Construction activities for 69 kV power lines located outside of the CNF would be the same as those described for the Proposed Action. Similarly, because of the overlapping construction schedules for these lines and the amount of equipment required to operate during construction activities, pollutant emissions resulting from heavy equipment used during construction are anticipated to exceed levels established by the SDAPCD for VOCs, NO_x, CO, and $PM_{2.5}$. SDG&E would implement APM-AIR-01 through APM-AIR-04 to reduce excess engine idling and fugitive dust, and minimize potential emissions for these sources. Table 18: Criteria Air Pollutant Exceedances During Construction – Connected Actions lists the criteria air pollutants for which applicable thresholds would be exceeded during the construction of Connected Actions, as well as the approximate number of days during which exceedances would occur.

In addition to emissions from heavy equipment use, construction would involve a total of approximately 139.2 acres of ground disturbance over approximately five years of pole-replacement activities, which would contribute to an increase of fugitive dust from these Connected Actions. Because the ground disturbance would be relatively small in size and fugitive dust emissions would be limited to the areas surrounding the work areas, impacts from $PM_{2.5}$ resulting from fugitive dust emissions are anticipated to be minor.

Table 18: Criteria Air Pollutant Exceedances During Construction – Connected Actions

Pollutant	Threshold (lbs/day)	Approximate Days Exceeded
VOCs	75	32
NO_x	250	90
CO	550	1
$PM_{2.5}$	55	4

There is also the potential for air quality impacts from airborne dust to occur as a result of the use of access roads. However, airborne dust generated during access road use would be limited to the immediate vicinity of the access road, and would occur instantaneously as vehicles traverse the access roads. In order to minimize potential impacts to air quality, SDG&E would implement the APMs described in Section 10.0.0 Proposed Action during construction of Connected Actions.

As previously discussed, the only operational emissions associated with Connected Actions would be from crew trucks, helicopters, and other equipment accessing the electric lines to perform periodic inspections and maintenance of the lines. There would be no increase in frequency of inspection and maintenance activities following construction of Connected Actions. As a result, these actions are not expected to exceed the SDAPCD's operational emission thresholds and no impact to air quality is anticipated.

10.0.2 Similar Actions

Construction activities required for wood-to-steel pole replacement, pole removal, and undergrounding of distribution lines outside the CNF would be similar to those described for the Proposed Action. Due to the large number of poles to be removed and replaced, and the significant amount of construction required to underground approximately four miles of distribution lines outside of the CNF—consisting of portions of C79, C440, and C449—a large number of crews would be required to work on multiple electric lines throughout the approximate five-year construction schedule. In addition, because of the overlapping construction schedules for these lines and the amount of equipment required to operate during construction activities, pollutant emissions resulting from heavy equipment used during construction are anticipated to exceed levels established by the SDAPCD for VOCs, NO_x, CO, and $PM_{2.5}$. SDG&E would implement APM-AIR-01 to reduce excess engine idling and minimize potential emissions for these sources. Table 19: Criteria Air Pollutant Exceedances During Construction – Similar Actions lists the criteria air pollutants for which applicable thresholds would be exceeded during construction of Similar Actions, as well as the approximate number of days during which exceedances would occur.

Table 19: Criteria Air Pollutant Exceedances During Construction – Similar Actions

Pollutant	Threshold (lbs/day)	Approximate Days Exceeded
VOCs	75	14
NO_x	250	40
CO	550	<1
$PM_{2.5}$	55	2

In addition to emissions from heavy equipment use, construction would involve a total of approximately 11.6 acres of ground disturbance over approximately five years of pole-replacement activities, which would contribute to an increase of fugitive dust in the area. Because the ground disturbance would be relatively small in size and fugitive dust emissions would be limited to the areas surrounding the electric lines, impacts from $PM_{2.5}$ resulting from fugitive dust emissions are anticipated to be minor. There is also the potential for air quality impacts from airborne dust to occur as a result of the use of access roads. In order to reduce potential impacts to air quality from these Similar Actions, SDG&E would implement dust control measures and limit traffic speeds during construction, as described in APM-AIR-02 and APM-AIR-03.

As previously discussed, operation and maintenance activities would not increase in frequency or change substantially following construction. As a result, operation and maintenance of those portions of the electric lines included as Similar Actions are not expected to exceed the SDAPCD's operational emission thresholds and no impact to air quality is anticipated.

10.1 BIOLOGICAL RESOURCES

The following section describes potential impacts to biological resources resulting from the Proposed Action, Connected Actions, and Similar Actions. Potential sensitive biological resources that could be impacted by the Proposed Action were identified through consultation with the USFS between 2009 and 2012. Additionally, SDG&E included for consideration those species identified in the February 2006 Biological Evaluation/Assessment, as prepared by the USFS, as well as species covered by SDG&E's Subregional NCCP and Low-Effect HCP. In December 1995, the USFWS and the CDFG approved the SDG&E Subregional NCCP, developed in coordination with such agencies that addresses potential impacts to species and habitat associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems, and typical expansion to those systems throughout much of SDG&E's existing service territory.

SDG&E also prepared a Low-Effect HCP to minimize and mitigate the effects of operation and maintenance activities on the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*) (QCB) and to obtain incidental take authorization for QCB from the USFWS in 2007. The HCP was prepared in consultation with the USFWS to fulfill the requirements of the Section 10(a)(1)(B) permit application and addresses the potential impact to the QCB from the

use, maintenance, and repair of existing gas and electric facilities, and allows for typical expansions to those systems, including the replacement of poles and conductors.

As a part of the NCCP and HCP, SDG&E has been issued incidental take authorizations (Permit PRT-809637) by the USFWS and the CDFG for 110 Covered Species. These documents were developed by following the multiple species and habitat conservation planning approach. Even with the NCCP and HCP, SDG&E's goal is to avoid take of Covered Species whenever possible and to implement measures to minimize and mitigate any take to the maximum extent possible. The NCCP and HCP each include mitigation measures and operational protocols that apply to construction and operations and maintenance activities. In approving the NCCP and HCP, the USFWS and CDFG determined that the mitigation measures and operational protocols avoid potential impacts and provide appropriate mitigation where such impacts are not avoided, and ensure the protection and conservation of federal and state-listed species and other Covered Species. The Proposed Action falls within the area in which SDG&E's utility operations are governed by the NCCP and, as such, the NCCP would be applied to the Proposed Action. As a result, the NCCP fully addresses all of the potential construction and operations and maintenance impacts of the Proposed Action on federal and state listed species and Covered Species. The NCCP and HCP mitigation measures and operational protocols have been incorporated as part of the Proposed Action description.

In preparation for the Proposed Action, SDG&E conducted biological surveys and vegetation mapping from 2010 to 2012. Additionally, focused surveys for targeted rare plant and wildlife species were conducted in accordance with survey protocols set forth by the CDFG, the California Native Plant Society (CNPS), and USFWS guidelines. Lists of plant and wildlife species targeted during these focused surveys were developed through consultation with the USFS and centered on USFS-listed species. Surveys were conducted in areas where potential habitat or suitable modeled habitat existed based on USFS species data, as well as data recorded within the California Natural Diversity Database and CNPS datasets. Surveys were not conducted in areas determined by the USFS to be occupied habitat. General field reconnaissance data on other plants and wildlife were also collected during the focused surveys.

10.1.0 Proposed Action

The Proposed Action area is situated from approximately 1,500 feet to over 5,500 feet above mean sea level. Fifteen vegetation communities—mixed oak woodland, southern riparian forest, oak savanna, southern mixed chaparral, chamise chaparral, diegan coastal sage scrub, semi-desert chaparral, montane forest, montane wet meadow, freshwater seep/open water, native grassland, non-native grassland, pastureland/cultivated agriculture, urban and developed/ornamental landscaping, and disturbed (ruderal/barren)—occur within the Proposed Action area. The Proposed Action area is located within USFWS-designated critical habitat for arroyo toad (*Anaxyrus californiucs*), southwestern willow flycatcher (*Empidonax traillii extimus*), Laguna Mountains Skipper (*Pyrgus ruralis lagunae*), San Bernardino blue grass (*Poa atropurpurea*), and San Diego thornmint (*Acanthomintha ilicifolia*). All of these species, with the exception of Laguna Mountains Skipper and San Bernardino blue grass, are covered by SDG&E's NCCP.

Based on consultation with the USFS on the USFS Regional Foresters List of Sensitive Species, the February 2006 Biological Evaluation/Assessment, the NCCP, and the results of focused surveys conducted for the Proposed Action, 31 special-status plant species and 31 special-status wildlife species were determined to be present within the ROW or have a moderate to high potential to occur based on the specific habitat types and elevations found within the ROW. These species and their respective listing statuses are shown in Table 20: Special-Status Plant Species Occurrence and Table 21: Special-Status Wildlife Species Occurrence. Due to the linear structure of utility systems, the potentials for species to occur were determined and categorized for the entire ROW of each 69 kV power line and 12 kV distribution line. Therefore, the potentials for species to occur for the Proposed Action, Connected Actions, and Similar Actions are the same. The following criteria were used to determine the potential for special-status species to occur within the Proposed Action area:

- Present: Species was detected within the Proposed Action area at the time of the survey, presence is noted in recent documentation of previous surveys within the Proposed Action area, or presence is assumed based on USFS-modeled data.

- High Potential: The Proposed Action area is located within the range of the species, suitable habitat is present within the Proposed Action area, and a recent historical record (less than 10 years old) of the species has been recorded within two miles of the Proposed Action area.

- Moderate Potential: The Proposed Action area is located within the range of the species; marginal habitat is present in the Proposed Action area; and a recent historical record (less than 10 years old) of the species has been recorded within five miles of the Proposed Action area. Alternatively, environmental conditions associated with the species occur within the Proposed Action area, but no historical records exist within five miles of the site.

- Low Potential: The Proposed Action area is located within the range of the species; poor to marginal habitat is present in the project area; and no recent historical records of the species exist in the Proposed Action area, or information in the Proposed Action area was unavailable. Alternatively, suitable habitat or marginally suitable habitat for the species exists in the Proposed Action area, but protocol-level focused surveys were conducted for the species and the species was not observed.

- No Potential: The Proposed Action area—or limited portions of the Proposed Action area—are located within the range of the species and no habitat for the species exists in the project area.

Table 20: Special-Status Plant Species Occurrence

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
San Diego thornmint[11] *Acanthomintha ilicifolia*	FT, CE, USFS S 1B.1 BLM S	✓	◔	◔	◔	◔	◔	●	○	○	○	○	○

[9] Explanation of state and federal listing codes

Federal listing codes:

FE: Federally listed as Endangered
FT: Federally listed as Threatened
USFS S: USFS Sensitive
BLM S: BLM Sensitive Species
BGEPA: Bald and Golden Eagle Protection Act

California listing codes:

CE: State-listed as Endangered
CT: State-listed as Threatened
Rare: State-listed as Rare
FPS: State-listed Fully Protected
SSC: State Species of Special Concern

CNPS lists:

1B.1: Rare, threatened, or endangered in California or elsewhere; seriously threatened in California
1B.2: Rare, threatened, or endangered in California or elsewhere; fairly threatened in California
1B.3: Rare, threatened, or endangered in California or elsewhere; not very threatened in California
2.1: Rare, threatened, or endangered in California only; seriously threatened in California
2.2: Rare, threatened, or endangered in California only; fairly threatened in California
2.3: Rare, threatened, or endangered in California only; not very threatened in California
3: Plants that are on a review list and require additional information
4.1: Uncommon in California; seriously threatened in California
4.2: Uncommon in California; fairly threatened in California
4.3: Uncommon in California; not very threatened in California

[10] Explanation of potentials symbols:
○: Species has no potential to occur or is confirmed absent along the electric line.
◔: Species has a low potential to occur along the electric line.
◑: Species has a moderate potential to occur along the electric line.
◕: Species has a high potential to occur along the electric line.
●: Species is present along the electric line.

[11] Special-status species that was targeted during focused surveys.

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Dean's milk-vetch[11] *Astragalus deanei*	USFS S 1B.1 BLM S		○	○	○	○	●[12]	○	○	●	○	○	○
Jacumba milk-vetch[11] *Astragalus douglasii* var. *perstrictus*	USFS S 1B.2 BLM S		◔	◔	●	◔	◔	○	○	●	○	○	●
San Diego milk-vetch[11] *Astragalus oocarpus*	USFS S 1B.2 BLM S		◔	◔	◔	◔	●[12]	○	○	●	●	○	○
Orcutt's brodiaea[11] *Brodiaea orcuttii*	USFS S 1B.1 BLM S		●[12]	◔	○	◔	◔	○	○	○	○	○	○
Dunn's mariposa lily[11] *Calochortus dunnii*	USFS S 1B.2 BLM S	✓	●	◔	◔	○	◔	○	●	○	○	○	○
Payson's jewel-flower[11] *Caulanthus simulans*	USFS S 4.2	✓	●	◔	●	◔	◔	○	○	○	○	○	○

[12] Species is present within the ROW outside of the CNF boundary.

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Long-spined spineflower[11] *Chorizanthe polygonoides* var. *longispina*	USFS S 1B.2		●	◔	●	●[12]	◔	○	○	○	○	●	●
Delicate clarkia[11] *Clarkia delicata*	USFS S 1B.2		●	●	◔	●	●	●	●[12]	●	●	○	●
Tecate tarplant[11] *Deinandra floribunda*	USFS S 1B.2 BLM S		●	●[12]	◔	◔	●	○	○	○	○	○	○
Variegated dudleya *Dudleya variegata*	1B.2 BLM S	✓	◑	○	○	◔	○	○	○	◔	○	○	○
Vanishing wild buckwheat[11] *Eriogonum evanidum*	USFS S 1B.1		◔	◔	◔	◔	◔	○	○	○	●	●[12]	○
Mexican flannelbush *Fremontodendron mexicanum*	FE, Rare 1B.1 BLM S		○	○	○	○	●[12]	○	○	○	○	○	○
Palmer's grappling-hook *Harpagonella palmeri*	4.2	✓	◕	○	◔	◔	◔	●[12]	○	◔	○	○	◔

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Tecate cypress[11] *Hesperocyparis forbesii*	USFS S 1B.1 BLM S	✓	◔	◔	◔	○	◔	○	○	○	●[12]	○	○
Cuyamaca cypress[11] *Hesperocyparis stephensonii*	USFS S 1B.1		◔	◔	◔	○	○	○	○	○	●[12]	○	○
Ramona horkelia[11] *Horkelia truncata*	USFS S 1B.3		◔	●	◔	◔	◔	○	○	○	○	○	○
Parish's meadowfoam[11] *Limnanthes gracilis* ssp. *parishii*	USFS S CE 1B.2 BLM S		○	○	○	○	○	○	○	○	●	○	○
Orcutt's linanthus[11] *Linanthus orcuttii*	USFS S 1B.3 BLM S		○	○	○	○	○	○	○	○	●	●[12]	○
Felt-leaved monardella[11] *Monardella hypoleuca* ssp. *lanata*	USFS S 1B.2	✓	●	○	○	○	○	●	○	○	○	○	○
Hall's monardella *Monardella macrantha* ssp. *hallii*	1B.3		◔	◔	◔	◑	◔	◔	◔	◔	◕	◔	◔

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
San Felipe monardella *Monardella nana* ssp. *leptosiphon*	1B.2 BLM S		◔	◑	◔	◕	◔	◔	◔	◔	◔	◔	◔
California orcutt grass *Orcuttica californica*	FE, CE 1B.1	✓	○	○	○	◑	◔	○	○	◔	○	○	○
Gander's ragwort[11] *Packera ganderi*	USFS S Rare 1B.2 BLM S	✓	●	○	○	○	○	○	○	○	○	○	○
Moreno currant[11] *Ribes canthariforme*	USFS S 1B.3 BLM S		○	○	○	○	○	○	○	○	○	●	○
Southern skullcap[11] *Scutellaria bolanderi* ssp. *austromontana*	USFS S 1B.2		◔	◔	●	◔	◔	○	○	○	○	●	○
Laguna Mountains jewelflower[11] *Streptanthus bernardenis*	4.3		○	○	○	○	○	○	●[12]	○	○	○	○
Southern jewelflower[11] *Streptanthus campestris*	USFS S 1B.3		○	●[12]	●	○	○	○	●[12]	○	●	○	○

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
San Bernardino aster[11] *Symphyotrichum defoliatum*	1B.2 BLM S		○	○	○	○	○	○	○	○	●	○	○
Velvety false-lupine[11] *Thermopsis californica var. semota*	USFS S 1B.2		○	◕	○	○	○	○	○	○	●	○	○

Table 21: Special-Status Wildlife Species Occurrence

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Invertebrates													
Quino Checkerspot Butterfly[11] *Euphydryas editha quino*	FE	✓	◕	○	○	○	◕	○	○	○	○	○	○
Hermes Copper Butterfly[11] *Lycaena hermes*	*Not currently listed*		●	●	◕	○	●[12]	◔	●	◕	○	○	○
Laguna Mountains Skipper *Pyrgus ruralis lagunae*	FE		○	○	◔	○	○	○	○	○	◕	◔	○
Fish													
Arroyo Chub *Gila orcutti*	USFS S SSC		○	○	○	◑	○	○	○	○	○	○	○
Amphibians													
Arroyo Toad[11] *Anaxyrus californicus*	FE, SSC	✓	◑	◔	◕	●	◕	○	○	◕	◑	◕	●

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Large-Blotched Salamander *Ensatina klauberi*	USFS S SSC		◔	◑	◔	◑	◔	○	◔	◔	○	◔	◔
Reptiles													
California Legless Lizard *Anniella pulchra*	SSC USFS S		◔	◔	◔	◔	◔	○	◔	◔	●	◔	◔
Belding's Orange-Throated Whiptail *Aspidoscelis hyperythra beldingi*	SSC	✓	◕	○	◔	◕	◔	◔	○	◔	○	○	◔
Southwestern Pond Turtle *Clemmys marmorata pallida*	SSC, USFS S	✓	◕	◕	◕	◕	◕	○	○	●	○	◕	◔
Northern Red-Diamond Rattlesnake *Crotalus ruber ruber*	SSC	✓	◕	◔	◔	◔	◔	◔	◔	◔	○	◔	◔
San Diego Mountain Kingsnake *Lampropeltis zonata pulchra*	SSC, USFS S		◔	◑	◑	◑	◔	○	◕	◔	●	◑	◔

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Coastal Rosy Boa *Lichanura trivirgata roseofusca*	BLM S, USFS S	✓	◔	◔	◔	◔	◑	◔	◔	◔	◔	◕	◔
Coast (San Diego) Horned Lizard *Phrynosoma coronatum blainvillii*	SSC, USFS S	✓	◕	◑	◕	◕	◕	◑	◕	◕	●	◕	◕
Coronado Island Skink *Plestiodon (Eumeces) skiltonianus interparietalis*	SSC	✓	◕	◔	◔	◔	◕	○	◔	◔	◔	◔	◔
Coast Patch-Nosed Snake *Salvadora hexalepis virgultea*	SSC	✓	◑	◔	◔	◔	◕	◔	◔	◔	◔	◔	◕
Two-Striped Garter Snake *Thamnophis hammondii*	SSC, BLM S USFS S	✓	◕	◑	◑	◑	◕	○	◔	◔	◕	◔	◕

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Birds													
Tricolored Blackbird - nesting colony *Agelaius tricolor*	SSC	✓	◔	○	◔	○	◑	○	○	◔	◔	◔	◔
Golden Eagle *Aquila chrysaetos*	FPS BGEPA	✓	○	○	◕	◕	◕	○	○	○	○	○	○
Southwestern Willow Flycatcher[11] *Empidonax traillii extimus*	FE	✓	○	○	◔	●	○	○	○	○	○	○	○
Coastal California Gnatcatcher[11] *Polioptila californica californica*	FT, SSC	✓	◕	○	○	◔	◔	◔	○	◔	○	○	○
California Spotted Owl[11] *Strix occidentalis occidentalis*	SSC, USFS S		◑	○	◔	●	○	○	○	○	◑	◑	○
Least Bell's Vireo[11] *Vireo bellii pusillus*	FE, CE	✓	●	◔	◕	◕	◕	○	○	◕	○	◑	◕

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Mammals													
Pallid Bat *Antrozous pallidus*	SSC, USFS S BLM S		◕	◕	◕	◑	◑	○	◔	◔	◔	◔	◔
Dulzura (California) Pocket Mouse *Chaetodipus californicus femoralis*	SSC	✓	◕	◕	◕	◔	◕	◔	◔	◔	◕	◔	◕
Northwestern San Diego Pocket Mouse *Chaetodipus fallax fallax*	SSC	✓	◔	◔	◔	◔	◕	◔	◔	◔	◔	◔	◔
Pallid San Diego Pocket Mouse *Chaetodipus fallax pallidus*	SSC	✓	○	◔	○	◔	○	◔	◔	○	◕	◔	○
Townsend's Big-Eared Bat *Corynorhinus townsendii*	SSC, USFS S BLM S		◔	◑	◕	◔	◑	○	◔	◔	◕	◑	◕
Stephens' Kangaroo Rat[11] *Dipodomys stephensi*	FE, CT	✓	○	○	○	●[12]	○	○	○	○	○	○	○

Species Name	Listing Status[9]	Covered by NCCP/ HCP	69 kV Power Line / 12 kV Distribution Line[10]										
			TL625	TL626	TL629	TL682	TL6923	C78	C79	C157	C440	C442	C449
Western Red Bat *Lasiurus blossevillii*	SSC, USFS S		◑	◑	◕	◔	◕	○	◔	◔	◕	◑	◑
California Leaf-Nosed Bat *Macrotus californicus*	SSC USFS S		○	○	○	○	◑	○	○	○	○	○	○
American Badger *Taxidea taxus*	SSC	✓	◔	◕	◔	◔	◔	◔	○	◔	◔	◔	◔

The following special-status plant species were reviewed and determined to have no or low potential to occur within the ROW:

- Chaparral sand-verbena (*Abronia villosa* var. *aurita)*
- San Diego ambrosia (*Ambrosia pumila)*
- Otay manzanita (Arctostaphylos otayensis)
- Nevin's barberry (*Berberis nevinii)*
- Thread-leaved brodiaea (*Brodiaea filfolia)*
- San Bernardino owl's clover (*Castilleja lasiorhyncha*)
- Lakeside ceanothus (*Ceanothus cyaneus)*
- Wart-stemmed ceanothus (*Ceanothus verrucosus)*
- Parry's Spineflower (Chorizanthe parryi var. parryi)
- Salt marsh bird's-beak (Cordylanthus maritimus ssp. maritimus)
- Otay tarplant (Deinandra conjugens)
- Mojave tarplant (Deinandra mohavensis)
- Cuyamaca larkspur (Delphinium hesperium ssp. cuyamacae)
- Mount laguna aster (Dieteria asteroids var. lagunensis)
- Palmer's goldenbush (Ericameria palmeri var. palmeri)
- San Diego barrel cactus (*Ferocactus viridescens)*
- Mission Canyon bluecup (Githopsis diffusa ssp. filicaulis)
- Warner Springs lessingia (Lessingia glandulifera var. tomentosa)
- Lemon lily (Lilium parryi)
- Baja navarretia (Navarretia peninsularis)
- Chaparral nolina (*Nolina cismontane)*
- Dehesa nolina (Nolina interrata)
- San Bernardino blue grass (*Poa atropurpurea)*
- San Miguel savory (*Satureja chandleri)*
- Hammitt's claycress (*Sibaropsis hammittii)*
- Parry's tetracoccus (*Tetracoccus dioicus)*

The following special-status wildlife species were reviewed and determined to have no or low potential to occur within the ROW:

- Bald Eagle (Haliaeetus leucocephalus)
- San Diego Fairy Shrimp (Branchinecta sandiegonensis)
- Mountain Yellow-Legged Frog (*Rana muscosa)*
- San Diego Ring-Necked Snake (*Diadophis punctatus similis)*
- San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii)*
- San Diego Desert Woodrat (*Neotoma lepida intermedia)*
- Southern Grasshopper Mouse (*Onychomys torridus Ramona)*

Construction of the Proposed Action would result in temporary disturbance to and permanent loss of vegetation. Temporary disturbances include short-term impacts during construction of new poles and removal of existing poles, improvements to existing access roads, and work at staging/laydown areas, stringing sites, and landing zones. Permanent impacts would result to an

area roughly the diameter of the replacement poles where steel poles would be installed. The Proposed Action would result in a temporary impact of approximately 33.4 acres, and a permanent impact of approximately 0.14 acres within the CNF. These temporary and permanent impacts are summarized by habitat type in Table 22: Vegetation Community Impacts of the Proposed Action in Acres (69 kV Power Lines) and Table 23: Vegetation Community Impacts of the Proposed Action in Acres (12 kV Distribution Lines).

SDG&E would consult with the appropriate resource agencies regarding potential impacts to federally and state-listed species, as appropriate, and in accordance with the NCCP. All work areas with associated temporary or permanent impacts would be surveyed for special-status plant and wildlife species by a qualified biologist prior to the commencement of construction in accordance with SDG&E's NCCP and pre-activity survey report requirements. In addition, in order to minimize impacts to sensitive species during construction, SDG&E would implement all appropriate NCCP Operational Protocols, included in Appendix A: SDG&E NCCP Protocols, which would ensure that impacts to sensitive plant and wildlife species resulting from the Proposed Action would be minor. The following paragraphs describe general impacts to special-status plant and wildlife species that may occur as a result of construction of the Proposed Action.

Potential impacts to special-status plant species may include the temporary or permanent loss of habitat, including loss of habitat that supports the species, and loss of potential seed bank due to the excavation of pole holes, consistent with construction activities conducted for other similar wood-to-steel replacement projects. Other impacts may include potential crushing by equipment, vehicles, and personnel working within suitable or occupied habitat. Project equipment and vehicles may introduce noxious weeds that compete with special-status species, or may result in petroleum product or other chemical spills that negatively affect special-status plant species and habitat. In addition, impacts such as an increase in fugitive dust could reduce the growth and vigor of special-status plant species. In order to minimize these potential impacts, SDG&E would implement NCCP protocols 1, 7, 11, 13, 14, 15, 16, 17, 20, 24, 25, 28, 29, 30, 35, 36, 39, 41, 42, 43, 44, 48, and 57 as described in Appendix A: SDG&E NCCP Protocols to avoid impacts to special-status plant species. These protocols include, but are not limited to: reducing vehicle speed to reduce fugitive dust, restricting vehicles to existing roads when feasible, minimizing impacts by defining the disturbance areas, designing the final Proposed Action construction design to avoid or minimize new disturbance and erosion, and adjusting access roads where feasible to avoid sensitive habitats. By implementing these NCCP protocols, any potential impacts to special-status plant species would be minimized.

Construction of the Proposed Action may impact two special-status invertebrate species: QCB and Hermes copper butterfly (*Lycaena hermes*). Impacts to these species include potential crushing of larvae or adults by equipment, vehicles, and personnel working within suitable or occupied habitat. Other impacts may include the permanent and temporary loss of habitat, including loss of vegetation (larval host plants and adult nectaring plants) that support the species. Vehicles and equipment may introduce noxious weeds, which have the potential to out-compete host and nectar plants. In addition, an increase in fugitive dust could reduce the growth and vigor of host and nectar plant species. In order to minimize these potential impacts, SDG&E would utilize NCCP protocols 1, 2, 3, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 29, 34, 35, 41, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols. These protocols include,

but are not limited to: training, pre-activity surveys, monitoring during clearing and grading activities, and reducing speeds to 15 mph along Proposed Action access roads to minimize fugitive dust.

The Proposed Action and all associated activities are also covered by the HCP; as a result, SDG&E would also mitigate any potential Proposed Action effects to QCB by implementing the HCP. Specifically, SDG&E would implement the protocols identified in HCP Sections 3.2 Actions to Minimize Impacts and 3.3 Actions to Mitigate Impacts, which include conducting pre-activity surveys, conducting protocol-level adult QCB flight season surveys within suitable QCB habitat within the HCP's designated Mapped Area prior to construction and submitting the 45-day QCB Survey Results Report to the USFWS, and mitigating for impacted habitat. If the timing of the Proposed Action would not allow for adult flight season surveys to determine the presence or absence of QCB in the Proposed Action area, SDG&E would assume that the identified Suitable QCB Habitat is occupied. These protocols also include ratios for mitigating impacts to QCB Occupied and Suitable habitat. With implementation of the HCP and SDG&E's NCCP, any potential impacts to QCB from the Proposed Action would be minimized.

As part of the Proposed Action, SDG&E would also replace several poles within USFS-modeled critical habitat and occupied habitat for the Laguna Mountains Skipper (*Pyrgus ruralis lagunae*) along C440. USFWS-designated critical habitat is also within the vicinity of C440. Figure 5: Laguna Mountains Skipper Modeled Critical and Occupied Habitat displays the locations of these areas and USFWS Critical Habitat. SDG&E has conducted extensive surveys within these areas and designed the Proposed Action to minimize the number of replacement poles to be constructed within these areas; SDG&E's survey data reveal that, in the currently planned pole construction locations, the likelihood of presence of the Laguna Mountains Skipper is low. Although this species is not covered under SDG&E's NCCP, SDG&E would utilize NCCP protocols 1, 2, 3, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 29, 34, 35, 41, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols, in these areas to minimize any potential impacts to these species. SDGE's protocols are expected to result in the avoidance of effects to Laguna Mountains Skipper. If pre-activity surveys determine that potential effects could occur, then SDG&E would work directly with the appropriate resource agencies to determine whether additional permitting would be required on a case-by-case basis.

Construction of the Proposed Action may impact one special-status fish species, the arroyo chub (*Gila orcutti*). This species has a moderate potential to occur within the TL682 ROW within the San Luis Rey River and potential tributaries that enter the river. All Proposed Action components and access to work areas would be placed outside the San Luis Rey River. Therefore, no temporary or permanent impacts to arroyo chub would occur as a result of construction. The TL682 power line would span the river, and there would be no impacts to the river. To prevent impacts that may result from degradation of water quality or disruption of water flow, SDG&E would implement the BMPs outlined in the Proposed Action's SWPPP to prevent construction materials from entering San Luis Rey River. With implementation of the SWPPP, no impacts to arroyo chub would occur.

Table 22: Vegetation Community Impacts of the Proposed Action in Acres (69 kV Power Lines)

Habitat Type	TL625		TL626		TL629		TL682		TL6923		Total	
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Chamise Chaparral	<0.01	2.37	0	0	0.01	1.63	0	0	0	0	0.02	4.00
Diegan Coastal Sage Scrub	0.01	0.88	0	0	<0.01	0.09	0	0	<0.01	0.09	0.01	1.06
Disturbed (Ruderal/Barren)	0	0	0	0	<0.01	0.06	0	0	0	0	<0.01	0.06
Freshwater Seep/Open Water	0	0	0	0	0	0	0	0	<0.01	0.02	<0.01	0.02
Mixed Oak Woodland	<0.01	0.27	<0.01	0.45	<0.01	0.20	<0.01	0.03	<0.01	0.02	0.01	0.97
Native Grassland	0	0	0	0	0	0	0	0	<0.01	0.04	<0.01	0.04
Non-Native Grassland	0	0	<0.01	0.04	<0.01	0.48	0	0	0	0	<0.01	0.52
Oak Savanna	0	0	0	0	<0.01	1.49	0	0	<0.01	0.03	<0.01	1.52
Pastureland/Cultivated Agriculture	0	0	0	0	0	0	0	0	0	0	<0.01	<0.01
Semi-Desert Chaparral	0	0	0	0	0.01	0.49	0	0	0	0	0.01	0.49
Southern Mixed Chaparral	0.01	5.01	0.02	4.39	0.01	1.81	0.01	2.52	<0.01	0.96	0.05	14.69
Southern Riparian Forest	0	0	0.01	1.53	<0.01	0.09	0	0.35	0	0	0.01	1.97
Urban and Developed/Ornamental Landscaping	<0.01	0.29	0	0	<0.01	<0.01	0	0	0	0	<0.01	0.29
Montane Forest	0	0	0	0	0	0	0	0	0	0	0	0
Montane Wet Meadow	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0.02**	**8.82**	**0.03**	**6.40**	**0.04**	**6.34**	**0.01**	**2.90**	**<0.01**	**1.15**	**0.11**	**25.61**

Table 23: Vegetation Community Impacts of the Proposed Action in Acres (12 kV Distribution Lines)

Habitat Type	C157		C440		C442		C449		C78		C79		Total	
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Chamise Chaparral	0	0	0	0.09	0	0	0	0	0	0	0	0	0	0.09
Diegan Coastal Sage Scrub	0	0	0	0	0	0	0	0	<0.01	0.12	0	0	<0.01	0.12
Disturbed (Ruderal/Barren)	0	0	<0.01	0.48	0	0	0	0.02	0	0	0	0	<0.01	0.50
Freshwater Seep/Open Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed Oak Woodland	0	0	0	0	<0.01	0.05	<0.01	0.23	0	0	0	0	<0.01	0.28
Native Grassland	<0.01	0.04	<0.01	0.01	0	0	0	0	0	0.01	0	0	<0.01	0.06
Non-Native Grassland	<0.01	0.19	<0.01	0.04	0	0	0	0.01	0	0	0	0	<0.01	0.24
Oak Savanna	0	0	<0.01	0.01	0	0	0	0.23	0	0	0	0	<0.01	0.24
Pastureland/ Cultivated Agriculture	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0.01
Semi-Desert Chaparral	<0.01	0.02	0	0	0	0	0	0.04	0	0	0	0	<0.01	0.06
Southern Mixed Chaparral	<0.01	0.13	<0.01	0.37	<0.01	0.36	<0.01	0.43	<0.01	0.05	<0.01	0.64	0.01	1.99
Southern Riparian Forest	0	0	0	0.01	0	0	<0.01	0.02	0	0	0	0	<0.01	0.04
Urban and Developed/ Ornamental Landscaping	0	0	<0.01	0.17	0	0	0	0.12	0	0	0	0	<0.01	0.29
Montane Forest	0	0	0.02	2.83	<0.01	0.21	0	0	0	0	0	0	0.02	3.04
Montane Wet Meadow	0	0	<0.01	0.85	0	0	0	0	0	0	0	0	<0.01	0.85
Total	**<0.01**	**0.38**	**0.02**	**4.89**	**0.01**	**0.62**	**<0.01**	**1.10**	**<0.01**	**0.18**	**<0.01**	**0.64**	**0.03**	**7.79**

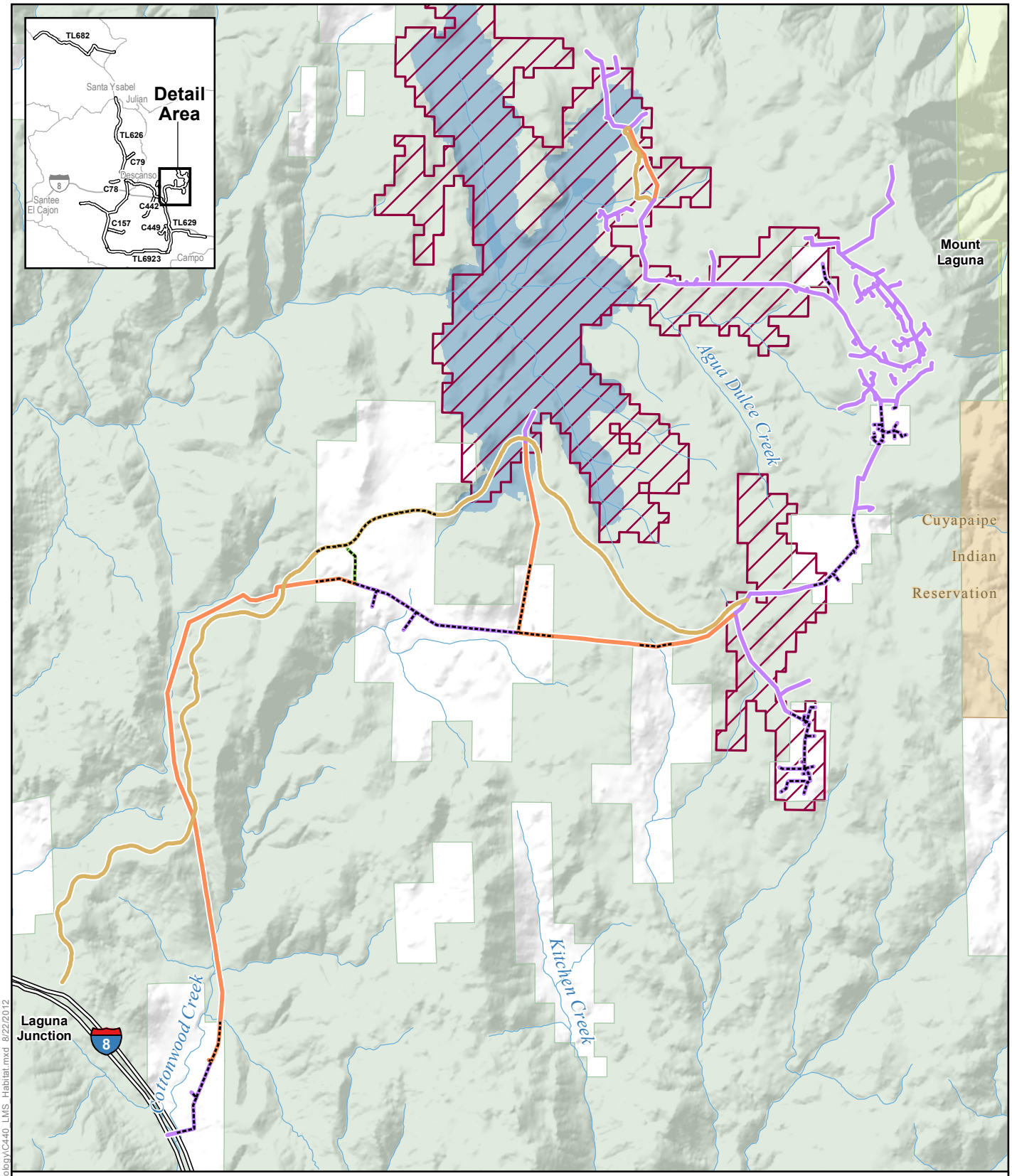

Figure 5:
Laguna Mountains Skipper Modeled Critical and Occupied Habitat **CNF Preliminary Plan of Development**

- USFWS Critical Habitat
- USFS Occupied Habitat (Modeled)
- New Steel
- Removal
- Undergrounding
- Wood-to-Steel Replacement
- *Similar Actions Shown with Dashed Line*
- United States Forest Service
- Bureau of Land Management
- Bureau of Indian Affairs
- Interstate
- Stream
- Lake

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

1 inch = 1 mile

0 0.5 1 Miles

Source: SDG&E, 2012; Chambers Group Inc., 2012; USFS, 2012; USFWS, 2012; CPAD 1.7 GreenInfo Network, 2011

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Construction of the Proposed Action would likely impact habitat for two special-status amphibian species, including arroyo toad (*Anaxyrus californicus*) and large-blotched salamander (*Ensatina klauberi*). Water features within the immediate vicinity of the 69 kV power line and 12 kV distribution line ROWs may provide suitable habitat for arroyo toad. The large-blotched salamander does not inhabit streams or bodies of water, and instead prefers moist, shaded, evergreen and oak woodland forests. Construction of the Proposed Action may impact these special-status amphibian species by temporarily and permanently affecting suitable habitat. Temporary impacts to amphibians may also be caused by the disruption of hibernating, feeding, and breeding from increased human activity; an increase in vehicles and equipment noise; direct mortality by vehicles; and crushing or removal of subterranean refuge. Amphibians have the potential to fall into and become trapped within the pole excavation areas, as well as trenches and bore pits where undergrounding of electric lines would occur. Impacts to water features from the Proposed Action could result from the degradation of water quality from the introduction of sediment or hazardous materials. Permanent impacts may result from the loss of suitable upland habitat.

Arroyo toads are known to disperse up to 1 mile from breeding habitat and large-blotched salamanders rely entirely on upland habitat. In addition, TL625, TL629, TL6923, C157, C442, and C449 cross USFWS-designated arroyo toad critical habitat. However, permanent impacts from the construction of the Proposed Action would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available habitat for these species in the area. SDG&E would utilize NCCP protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 20, 24, 25, 27, 29, 34, 35, 37, 38, 41, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols. These protocols include, but are not limited to: training, pre-activity surveys, monitoring during clearing and grading activities, avoidance of burrows, requiring all trenches and excavations to be inspected twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route. With implementation of the NCCP protocols, any potential effects on amphibians would be minor. Additionally, the Proposed Action was designed to remove a number of existing wood poles within arroyo toad habitat along C449; removing these poles would further reduce potential future impacts in these areas as operation and maintenance activities would no longer be required once the poles are removed and the electric line is relocated.

Construction of the Proposed Action may impact several special-status reptiles, including the following:

- southwestern pond turtle (*Clemmys marmorata pallida*)
- California legless lizard (*Anniella pulchra*)
- coast horned lizard(*Phrynosoma coronatum blainvillii*)
- Belding's orange throated whiptail (*Aspidoscelis hyperythra beldingi*)
- Coronado island skink (*Plestiodon skiltonianus interparietalis*)
- northern red-diamond rattlesnake (*Crotalus ruber ruber*)
- San Diego mountain kingsnake (*Lampropeltis zonata pulchra*)
- coastal rosy boa (*Lichanura trivirgata roseofusca*)
- two-striped garter snake (*Thamnophis hammondii*)
- coast patch-nosed snake (*Salvadora hexalepis virgultea*)

Disturbance may be caused by the increase in vehicles and equipment noise; direct mortality by vehicles; disruption of hibernating, feeding, and breeding from increased human activity; and removal of burrows these species often utilize. In addition, removal of vegetation may reduce the amount of cover that special-status reptile species have to avoid predators. Other permanent impacts from the construction of the Proposed Action would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available habitat for these species in the area. In addition, SDG&E would utilize NCCP protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 20, 24, 25, 27, 29, 34, 35, 37, 38, 41, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols. These protocols include, but are not limited to: training, pre-activity surveys, monitoring during clearing and grading activities, avoidance of burrows, requiring all trenches and excavations to be inspected twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route. With implementation of SDG&E's NCCP, any potential impacts to special-status reptile species would be minor.

Construction activities could also potentially impact nesting raptors, passerines, and other special-status bird species. Several special-status avian species were observed during the field survey or have a moderate or high potential to occur within the Proposed Action area. These species include, but are not limited to, the following:

- the golden eagle (*Aquila chrysaetos*)
- California spotted owl (*Strix occidentalis occidentalis*)
- southwestern willow flycatcher (*Empidonax traillii extimus*)
- least Bell's vireo (*Vireo bellii pusillus*)
- coastal California gnatcatcher (*Polioptila californica californica*)
- tricolor blackbird (*Agelaius tricolor*)

General impacts to all special-status avian species may include the removal of potential nesting and cover habitat and the disruption of nesting behavior due to a temporary increase in noise from construction equipment and vehicles. Construction activities could also potentially impact foraging raptors, passerines, and other special-status bird species. Impacts may include minor degradation of foraging habitat, removal of some food sources, and the disruption of foraging behavior due to a temporary increase in noise from construction equipment and vehicles. Least Bell's vireo is typically associated with riparian areas; therefore, suitable nesting and foraging habitat for this species may be temporarily lost as a result of tree-trimming activities within riparian areas. However, impacts would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available riparian habitat for this species in the Proposed Action area. Tricolor blackbird is typically associated with freshwater wetland areas; however, no impacts to suitable wetland nesting habitat are anticipated as a result of construction activities. The golden eagle nests on cliff faces, walled canyons, or in tall trees, and suitable nesting habitat for golden eagle is present within five miles of TL6923, TL682, and TL629. In addition, the USFS has documented a golden eagle nest at the Glencliff area along TL629. If a golden eagle nest is identified in the vicinity of the proposed work area, SDG&E would consult with the appropriate resource agencies to avoid impacts to nesting eagles.

Impacts to California spotted owl could occur from, the destruction of suitable roosting or nesting habitat or the temporary or permanent loss of foraging habitat. Direct effects may also result from disturbance related to increased construction noise and human presence. Because California spotted owls typically forage at night and all project-related work would be conducted during daylight, there is low to no potential that the Proposed Action would affect foraging activities. Suitable roosting habitat may be temporarily lost as a result of tree-trimming activities; however, the impacts would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available habitat for this species in the area. Adverse effects resulting from increased noise or human presence have the potential to occur if active nesting sites are within the vicinity of active construction areas. If California spotted owls are identified in the vicinity of proposed work areas during the pre-activity survey process, SDG&E would consult with the appropriate resource agencies to avoid impacts to nesting California spotted owl. With implementation of SDG&E's NCCP, any potential impacts to California spotted owl would be minor.

Southwestern willow flycatchers are typically associated with riparian areas; therefore, suitable nesting and foraging habitat for this species may be temporarily lost as a result of tree-trimming activities within riparian areas. In addition, TL682 crosses USFWS-designated southwestern willow flycatcher critical habitat along a riparian corridor. If southwestern willow flycatchers are identified in the vicinity of the proposed work area during the pre-activity survey process, SDG&E would consult with the USFWS to avoid impacts to nesting southwestern willow flycatcher. With implementation of SDG&E's NCCP, any potential impacts to southwestern willow flycatcher would be minor.

Concerns regarding potential electrocution impacts from electric lines to wildlife species are primarily focused on avian species. Electrocution of avian species can occur from wing contact as avian species perch, land, or take off from a utility pole by coming into simultaneous contact with two conductors to complete the electrical circuit; simultaneous contact with energized phase conductors and other equipment; and simultaneous contact with energized wires and a grounded wire. Electrocution of avian species is more of a potential hazard to larger birds, such as raptors, because their body size and wing span are large enough to span the distance between the conductor wires and, thus, complete the electrical circuit. All 69 kV power line structures would be constructed in compliance with the APLIC's Suggested Practices for Avian Protection on Power Lines. The Proposed Action includes only the replacement of existing electric lines and does not include the construction of any new electric lines; therefore, the electrocution risk would not increase from the risk of the existing lines but would, in fact, decrease as additional APLIC-approved measures would be implemented. In addition, as part of the Proposed Action and Similar Actions, SDG&E would replace some portions of the existing overhead distribution lines with underground lines. The installation of underground conduit would result in an overall reduction of potential electrocution impacts to avian species.

Other permanent impacts on avian species from the construction of the Proposed Action would be limited because the percentage of suitable nesting and foraging habitat that would be removed is extremely small in comparison to the total amount of available habitat for these species in the area. In addition, SDG&E would utilize NCCP protocols 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 20, 24, 25, 27, 29, 34, 35, 41, 44, 48, 50, 54, 55, and 57 to avoid impacts to special-status avian species and nesting avian species. These protocols include, but are not limited to: restricting

vehicles to existing roads when feasible, avoiding wildlife to the extent practicable, conducting pre-activity nest surveys, and avoiding nesting season to the extent practicable. As a result, with implementation of SDG&E's NCCP any potential impacts to nesting avian species would be minor.

Construction activities may potentially impact special-status mammal species, including Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*), and American badger (*Taxidea taxus*). Potential impacts to mammal species include the temporary and permanent loss of suitable foraging and cover habitat, as well as the potential loss of burrows or dens. Rodent species and American badgers have the potential to fall into and become trapped within the pole excavation areas, as well as trenches and bore pits. In addition, potential impacts could result from temporary disturbance due to an increase in vehicle and equipment use and possible direct morality from construction vehicles and equipment. Other permanent impacts from the construction of the Proposed Action would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available habitat for rodent species in the area. In addition, SDG&E would utilize protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 27, 29, 34, 35, 37, 38, 41, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols. These protocols include, but are not limited to: training, pre-activity surveys, monitoring during clearing and grading activities, avoidance of active burrows and dens, requiring all trenches and excavations to be inspected twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route. With implementation of SDG&E's NCCP, therefore, any potential impacts to special-status mammal species would be minor.

Construction activities may potentially impact special-status bat species. Four special-status bat species have a moderate or high potential to occur within the Proposed Action area. These species include the California leaf-nosed bat (*Macrotus californicus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*). Impacts to bats may occur if construction activities result in the disruption or abandonment of nearby active bat roosts. Because the Proposed Action includes the replacement of existing poles with replacement steel poles, any potential impacts to bat foraging or movement are anticipated to be minimal. The western red bat roosts in small colonies in the foliage of trees and shrubs and may be directly impacted from vegetation clearing. The remaining three bat species prefer to roost in caves, rock crevices, cliff faces, or man-made structures. Potential roosting habitat for these species would be not be directly impacted, but disturbance to nearby roosts is possible due to noise from construction equipment. No bat roosts have been identified in the Proposed Action area to date; however, focused bat surveys have not been conducted, and roosts may become established prior to the start of construction. If active bat roosts are identified during pre-activity surveys, SDG&E would coordinate with the USFS/CDFG as appropriate. Other permanent impacts from the construction of the Proposed Action would be limited because the percentage of suitable habitat that would be removed is extremely small in comparison to the total amount of available habitat for this species in the area. In addition, SDG&E would utilize protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 27, 29, 34, 35, 37, 44, 48, 54, 55, and 57, as described in Appendix A: SDG&E NCCP Protocols. These protocols

include, but are not limited to, training and pre-activity surveys. With implementation of SDG&E's NCCP, any potential impacts to special-status bat species would be minor.

Following completion of construction activities, operation and maintenance of the Proposed Action facilities would occur in the same manner as that which is currently conducted for the existing facilities. Additionally, the replacement steel poles would require less frequent inspection, repairs, and routine maintenance than the existing wood poles. As a result, any potential impacts to biological resources from operation and maintenance of the Proposed Action facilities would be less than currently exists.

10.1.1 Connected Actions

Potential impacts to biological resources resulting from construction, operation, and maintenance of Connected Actions are the same as those described for the Proposed Action. Differences from the Proposed Action are summarized in this section.

Special-status plants have the same potential to occur as those listed in Table 20: Special-Status Plant Species Occurrence. The majority of special-status wildlife have the same potential to occur as those listed in Table 21: Special-Status Wildlife Species Occurrence. Species that were found to be present within areas of Connected Actions (outside the CNF boundary) include the following:

- Hermes Copper Butterfly (*Lycaena hermes*) along TL6923
- Stephens' Kangaroo Rat (*Dipodomys stephensi*) along TL682

Potential impacts—and NCCP protocols to mitigate those impacts—to Hermes copper butterfly from Connected Actions would be consistent with those discussed previously in Section 10.1.0 Proposed Action. Stephens' kangaroo rat was found to be present along TL682 to the west and north of Lake Henshaw, which is outside of the CNF boundary. Habitat within the CNF along TL682 was determined to be unsuitable for Stephens' kangaroo rat during surveys conducted in 2010. Potential impacts to Stephens' kangaroo rat are the same as those described for the Proposed Action for special-status mammal species.

Construction of Connected Actions would result in a temporary impact of approximately 128.13 acres, and a permanent impact of approximately 0.33 acres. Temporary and permanent impacts of Connected Actions would be the same as those described for the Proposed Action. These temporary and permanent impacts are summarized by habitat type in Table 24: Vegetation Community Impacts of Connected Actions in Acres (69 kV Power Lines).

10.1.2 Similar Actions

Potential impacts to biological resources resulting from construction, operation, and maintenance of Similar Actions are the same as those described for the Proposed Action. Differences from the Proposed Action are summarized in this section.

Special-status plants have the same potential to occur as those listed in Table 20: Special-Status Plant Species Occurrence. Special-status wildlife have the same potential to occur as those listed for the Proposed Action in Table 21: Special-Status Wildlife Species Occurrence.

Similar Actions would result in a temporary impact of approximately 3.10 acres, and a permanent impact of approximately 0.01 acres. Temporary and permanent impacts of Similar Actions would be the same as those described for the Proposed Action. These temporary and permanent impacts are summarized by habitat type in Table 25: Vegetation Community Impacts of Similar Actions in Acres (12 kV Distribution Lines).

10.2 CULTURAL RESOURCES

A Cultural Resource Survey Report for the Proposed Action and Connected and Similar Actions was prepared by ASM Affiliates, Inc., in April 2011. As part of compliance with the NHPA, potential adverse effects to cultural resources were identified. The Area of Potential Effect (APE) included approximately 90 feet on either side of the electric lines and approximately 30 feet on either side of the electric line access road centerlines, and the actual footprint of all stringing sites, staging areas, guard structures, and fly yards.

Due to the presence of Native American cultural resources in the area, the Native American Heritage Commission recommended that tribal groups be contacted for additional information and input. Letters of inquiry were sent to 16 tribal groups on March 20, 2009, and 21 groups on July 19, 2010. No responses have been received to date.

A Paleontological Resource Report for the Proposed Action, Connected Actions, and Similar Actions was prepared by the San Diego Natural History Museum in March 2012. No known fossils have been recorded within 0.5 mile of any construction areas.

As previously noted, SDG&E identified and included for consideration all potential cultural resources areas within the APE during construction design. During this process, SDG&E identified these areas for exclusion when considering replacement pole locations and, to the extent feasible, relocated replacement pole locations outside of cultural resource area boundaries.

10.2.0 Proposed Action

Based on a literature review, approximately 122 cultural sites are located either partially or completely within the Proposed Action portion of the APE. Approximately 15 of these sites have existing wood poles located within their survey boundaries.

The Proposed Action area passes through two historic resources. Old Highway 80 is a historic resource that is bordered by portions of TL629 from approximately Pine Valley in the west to the Campo Indian Reservation in the east. Old Highway 80 was recorded and assessed as eligible for the NRHP in 2000. Approximately seven existing TL629 wood poles are located along Old Highway 80, but are outside the historic resource itself. Lilac Village is also a historic resource that is located along Sunrise Highway, north of Mount Laguna Drive and south of Los Huecos Road. Lilac Village was recorded and assessed as eligible for the NRHP in 1980. Approximately 10 existing C449 wood poles are located in the historic resource itself.

Table 24: Vegetation Community Impacts of Connected Actions in Acres (69 kV Power Lines)

Habitat Type	TL625		TL626		TL629		TL682		TL6923		Total	
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Chamise Chaparral	0.01	3.51	0	0	0.01	2.68	0	0	<0.01	0.55	0.02	6.75
Diegan Coastal Sage Scrub	0.01	1.60	0	0	<0.01	0.03	0.01	1.71	0.02	2.59	0.04	5.92
Disturbed (Ruderal/Barren)	0.00	5.54	0	0	<0.01	1.19	0	0.98	0	0	0.01	7.71
Freshwater Seep/Open Water	0	0	0	0.48	0	0	0	0	0	0.01	0	0.49
Mixed Oak Woodland	0.01	1.75	<0.01	1.80	<0.01	0.54	0.02	4.09	0	0.01	0.04	8.19
Native Grassland	<0.01	0.58	0	0	0	0.08	0	0	<0.01	1.00	0.01	1.66
Non-Native Grassland	0	<0.01	0.01	1.21	<0.01	1.51	0.02	9.05	<0.01	0.15	0.03	11.92
Oak Savanna	<0.01	0.41	0.01	1.99	0.01	2.84	<0.01	0.03	<0.01	0.02	0.02	5.29
Pastureland/Cultivated Agriculture	<0.01	9.48	0	0	0	8.16	0.01	2.90	0	0	0.01	20.53
Semi-Desert Chaparral	0	0	0	0	0.02	5.41	0	0	0	0	0.02	5.41
Southern Mixed Chaparral	0.02	9.18	0.02	5.90	0.01	5.08	0.01	1.98	0.02	3.12	0.08	25.26
Southern Riparian Forest	0	0	<0.01	0.20	0.01	0.49	<0.01	0.38	0	0	0.01	1.06
Urban and Developed/Ornamental Landscaping	0.01	5.71	0.01	1.45	0.03	11.57	<0.01	1.21	<0.01	0.95	0.05	20.88
Montane Forest	0	0	0	0	0	0	0	0	0	0	0	0
Montane Wet Meadow	0	0	0	0	0	0	0	0	0	0	0	0
Area Not Surveyed	<0.01	1.19	0	0.79	0	0	<0.01	5.09	0	0	<0.01	7
Total	**0.07**	**38.94**	**0.04**	**13.82**	**0.10**	**39.56**	**0.06**	**27.42**	**0.05**	**8.39**	**0.33**	**128.13**

Table 25: Vegetation Community Impacts of Similar Actions in Acres (12 kV Distribution Lines)

Habitat Type	C157		C440		C442		C449		C78		C79		Total	
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Chamise Chaparral	0	0	<0.01	0.11	0	0	0	0	0	0	0	0	<0.01	0.11
Diegan Coastal Sage Scrub	0	0	<0.01	0.01	<0.01	0.06	0	0	<0.01	0.04	0	0	<0.01	0.11
Disturbed (Ruderal/Barren)	0	0	<0.01	0.01	0	0.27	0	0.23	0	0	0	0	<0.01	0.52
Freshwater Seep/Open Water	0	0	0	0	<0.01	0.01	0	0	0	0	0	0	<0.01	0.01
Mixed Oak Woodland	<0.01	0.02	0	0.01	<0.01	0.16	0	0	0	0	0	0	<0.01	0.19
Native Grassland	<0.01	0.13	0	0	0	0	0	0	0	0	0	0	<0.01	0.13
Non-Native Grassland	0	0	<0.01	0.04	0	0	0	0	0	0	0	0	<0.01	0.04
Oak Savanna	0	0	0	0	0	0	0	0	0	0	0	0	0	<0.01
Pastureland/Cultivated Agriculture	0	0	<0.01	0.30	0	0	0	0	0	0	0	0	<0.01	0.30
Semi-Desert Chaparral	<0.01	0.06	0	0	0	0	0	0	0	0	0	0	<0.01	0.06
Southern Mixed Chaparral	<0.01	0.26	<0.01	0.05	<0.01	0.20	<0.01	0.11	<0.01	0.02	0	0.15	<0.01	0.78
Southern Riparian Forest	<0.01	0.02	0	0	0	0	<0.01	0.04	0	0	0	0	<0.01	0.06
Urban and Developed/Ornamental Landscaping	0	0	<0.01	0.16	<0.01	0.01	0	0.01	0	<0.01	0	0	<0.01	0.18
Montane Forest	0	0	<0.01	0.50	0	0	0	0	0	0	0	0.09	<0.01	0.59
Montane Wet Meadow	0	0	<0.01	0.02	0	0	0	0	0	0	0	0	<0.01	0.02
Total	**<0.01**	**0.49**	**0.01**	**1.21**	**<0.01**	**0.71**	**<0.01**	**0.39**	**<0.01**	**0.06**	**0**	**0.24**	**0.01**	**3.10**

During construction design of the Proposed Action, SDG&E identified potentially sensitive environmental resources in the vicinity of the electric lines, access roads, and appurtenant facilities and incorporated this information into the project design. During these activities, a potentially sensitive archaeological resource was identified in the vicinity of an access road along TL626, where improvement or maintenance of this access road could potentially impact the archaeological site. In order to prevent potential impacts to this site, SDG&E would flag the site for avoidance and prohibit any grading activities in the vicinity as part of construction or operation and maintenance. Additionally, the site surface would be protected by applying a geotextile fabric, then covering the fabric surface with rock to create a drivable surface that can be maintained within impacting the site below. The resource potential of the geologic formations in the Proposed Action area has been evaluated in accordance with the Potential Fossil Yield Classification (PFYC) guidelines set forth by the BLM. The majority of Proposed Action poles (approximately 772) are located on PFYC Class 1 geologic units, very low potential, with approximately 56 poles located in areas of PFYC Class 2 units, low potential, and approximately 48 located in areas classified as PFYC Class 3, moderate or unknown potential. There are no PFYC Class 4 or 5 geologic units located within the Proposed Action ROW. TL682 is the only Proposed Action power line that contains poles located within areas of high sensitivity for buried fossil deposits.

To ensure that impacts to sensitive cultural resources would be avoided during construction, SDG&E would implement the following APMs:

- APM-CUL-01: Prior to construction, all SDG&E, contractor, and subcontractor personnel will receive training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural, archaeological, and paleontological resources and how to recognize possible buried resources. This training will include a presentation of the procedures to be followed upon discovery or suspected discovery of cultural and archaeological materials, including Native American remains and their treatment, as well as of paleontological resources.

- APM-CUL-02: Intensive pedestrian surveys will be conducted prior to construction in those areas within the ROWs for which initial survey access was not granted to determine the potential for impacts to cultural resources in these areas. Where possible, engineering design will be re-evaluated to determine whether facilities can be relocated to avoid any cultural resources identified from these additional surveys. If relocation is not feasible, APM-CUL-03 will be implemented to minimize impacts to sensitive cultural resources.

- APM-CUL-03: All potentially National Register-eligible or archaeologically sensitive sites, as defined in the Cultural Resources Survey Report, that will not be directly affected by construction but are within 50 feet of replacement pole locations will be designated as Environmentally Sensitive Areas (ESAs). Protective fencing or other markers will be erected and maintained to protect these ESAs from inadvertent trespass for the duration of construction in the vicinity. ESAs will not be signed or marked as cultural, historical, or archaeological resources.

- APM-CUL-04: An archaeological or cultural monitor will be present during construction activities within identified archaeological or cultural resource site boundaries, respectively, as identified in the Cultural Resources Survey Report, if the replacement pole requires a foundation or a larger hole than the existing wood pole location to be excavated. The monitor will identify potential archaeological or cultural resources that may be unexpectedly encountered during construction and will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of archaeological or cultural resources in a timely fashion. When archaeological or cultural resources are discovered, the monitor will recover them in accordance with professional standards. Daily logs will be kept by all monitors, and a monitoring report will be prepared at the conclusion of each phase of monitoring. Monitors will also identify and delineate a footpath through the archaeological and cultural resource sites for construction crews, as needed.

- APM-CUL-05: SDG&E will implement all applicable site-specific impact avoidance measures identified and described in the Cultural Resources Survey Report, such as limiting access road improvements in culturally sensitive areas; placing new poles within two to four feet of existing poles where necessary to avoid sensitive resources; and cutting existing poles off at grade level, where specified.

- APM-CUL-06: SDG&E will develop a Cultural Resources Treatment Plan that includes procedures for protection and avoidance, evaluation and treatment, and the curation of any potentially register-eligible cultural materials collected during construction. Specific protective measures, including a monitoring program, will be defined in the Cultural Resources Treatment Plan to reduce potential adverse impacts on unknown cultural resources to less-than-significant levels.

- APM-CUL-07: All operations within 50 feet of an inadvertent discovery during construction shall cease and SDG&E's cultural resource specialist will be contacted should any previously unidentified prehistoric or historic artifacts, indicators or examples of cultural, archaeological, or paleontological resources, or potential human remains be discovered during the course of site preparation, grading, excavation, construction, or other activities. Once the find has been identified and evaluated, SDG&E's cultural resources specialist will determine the required treatment in consultation with the USFS.

- APM-CUL-08: A paleontological monitor will be present for excavation activities conducted at locations with underlying PFYC Class 3 geologic deposits where new steel poles are unable to be installed in the same location as of that of the existing wood pole. In the event that fossils are unexpectedly encountered during construction, a qualified paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow the recovery of fossil remains in a timely fashion. When significant fossils are discovered, the paleontologist will recover them in accordance with professional standards. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and curated in a scientific institution with permanent paleontological collections. The paleontological monitor will follow the procedures outlined in the Paleontological Monitoring and Treatment Plan, which will be prepared

and will include information regarding pre-construction field surveys, construction personnel training, necessary permits, research design, monitoring methodology, fossil discovery and recovery protocols, fossil preparation and curation procedures, and the preparation of a final monitoring report.

Implementation of the aforementioned APMs would ensure that impacts to sensitive cultural resources are avoided or minimized.

10.2.1 Connected Actions

Based on a literature review, approximately 89 cultural sites are located either partially or completely within Connected Actions portions of the APE. Approximately 28 of these sites have existing wood poles located within their survey boundaries.

One historic resource, Old Highway 80, passes through a Connected Actions area and is bordered by portions of TL629 from approximately Pine Valley in the west to the Campo Indian Reservation in the east. Old Highway 80 was recorded and assessed as eligible for the NRHP in 2000. Approximately 32 existing TL629 wood poles are located along Old Highway 80, but are outside the historic resource itself.

The majority of the approximately 971 Connected Actions poles are located on PFYC Class 1 geologic units, very low potential, with approximately 172 poles located in areas of PFYC Class 2 units, low potential, and approximately 84 located in areas classified as PFYC Class 3, moderate or unknown potential. There are no PFYC Class 4 or 5 geologic units located within Connected Actions ROWs. TL682 is the only 69 kV power line with Connected Actions that contains poles located within areas of high sensitivity for buried fossil deposits.

To further ensure that impacts to sensitive cultural resources would be avoided during construction, SDG&E would implement the previously described APM-CUL-01 through APM-CUL-08. Therefore, impacts to sensitive cultural resources would be avoided or minimized.

10.2.2 Similar Actions

Based on a literature review, approximately 17 cultural sites are located either partially or completely within Similar Actions portions of the APE. Approximately eight of these sites have existing wood poles located within their survey boundaries.

One historic resource, Lilac Village, contains a Similar Actions work area and is located along Sunrise Highway, north of Mount Laguna Drive and south of Los Huecos Road. Lilac Village was recorded and assessed as eligible for the NRHP in 1980. No existing wood poles are located within the historic resource itself.

The majority of the approximately 192 Similar Actions poles are located on PFYC Class 1 geologic units, very low potential, with approximately 11 poles located in areas of PFYC Class 2 units, low potential, and approximately 18 located in areas classified as PFYC Class 3, moderate or unknown potential. There are no PFYC Class 4 or 5 geologic units located within Similar Actions ROW.

As previously described, SDG&E would implement APM-CUL-01 through APM-CUL-08 to ensure that impacts to sensitive cultural resources would be avoided during construction. Therefore, impacts to sensitive cultural resources would be avoided or minimized.

10.3 FIRE HAZARDS

The following describes the potential impacts from fire hazards from the Proposed Action, Connection Actions, and Similar Actions.

10.3.0 Proposed Action

The California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) classifies the Proposed Action area as having a moderate to very high fire threat. These areas are designated as such due to the wildland fire threat relative to the fuel, weather, and topography of the area with ratings of moderate, high, very high and extreme. The FRAP defines fire threat as the likelihood that an area would burn, combined with the severity of burn behavior characteristics (such as intensity, speed, and embers produced). FRAP data for the Proposed Action area are depicted in Figure 6: Fire Hazard Severity Map. According to these data, approximately 94 percent of Proposed Action components would be located in an area of very high fire threat classification.

San Diego County is an extremely fire-prone landscape; the county is dominated by a Mediterranean-type climate with mild, wet winters and hot, dry summers, which supports dense, drought-adapted shrub lands that are highly flammable. Winds originating from the Great Basin—locally known as Santa Ana winds—create extreme fire weather conditions characterized by low humidity, sustained high-speed winds, and extremely strong gusts. The Santa Ana winds create extremely dangerous fire conditions and have been the primary driver of most of California's catastrophic wildfires. High winds can cause electric lines to touch, fall, or come in contact with adjacent vegetation, causing sparks which could ignite potentially damaging wildfires. Ten wildfires have occurred over the past 10 years in the Proposed Action area. The most recent wildfires in the Proposed Action area were the Harris, McCoy, Poomacha, and Witch fires in 2007, which burned approximately 393,290 acres.

SDG&E has developed operating protocols and safety standards that minimize the risk of wildland fires during SDG&E construction activities. Specifically, wildland fire prevention during construction is governed internally to SDG&E through implementation of ESP 113-1, as described in Section 7.4 Fire Preparedness. The purpose of ESP 113-1 is to formalize procedures and routine construction practices that would improve SDG&E's ability to prevent the start of any fire; set standards for tools and equipment to assist with rapid response to small fires; incorporate federal, state, and local requirements into standard business practices; establish restrictions base on RFWs and PAL designations; set criteria for when a formal fire plan is required; and establish a template and requirements for formal fire plans.

Construction activities do have the potential to start a fire due to the increased presence of vehicles, equipment, and human activity in areas of elevated fire hazard severity. In particular, heat or sparks from construction vehicles or equipment have the potential to ignite dry vegetation. Consistent with current SDG&E standard practices, SDG&E would implement its

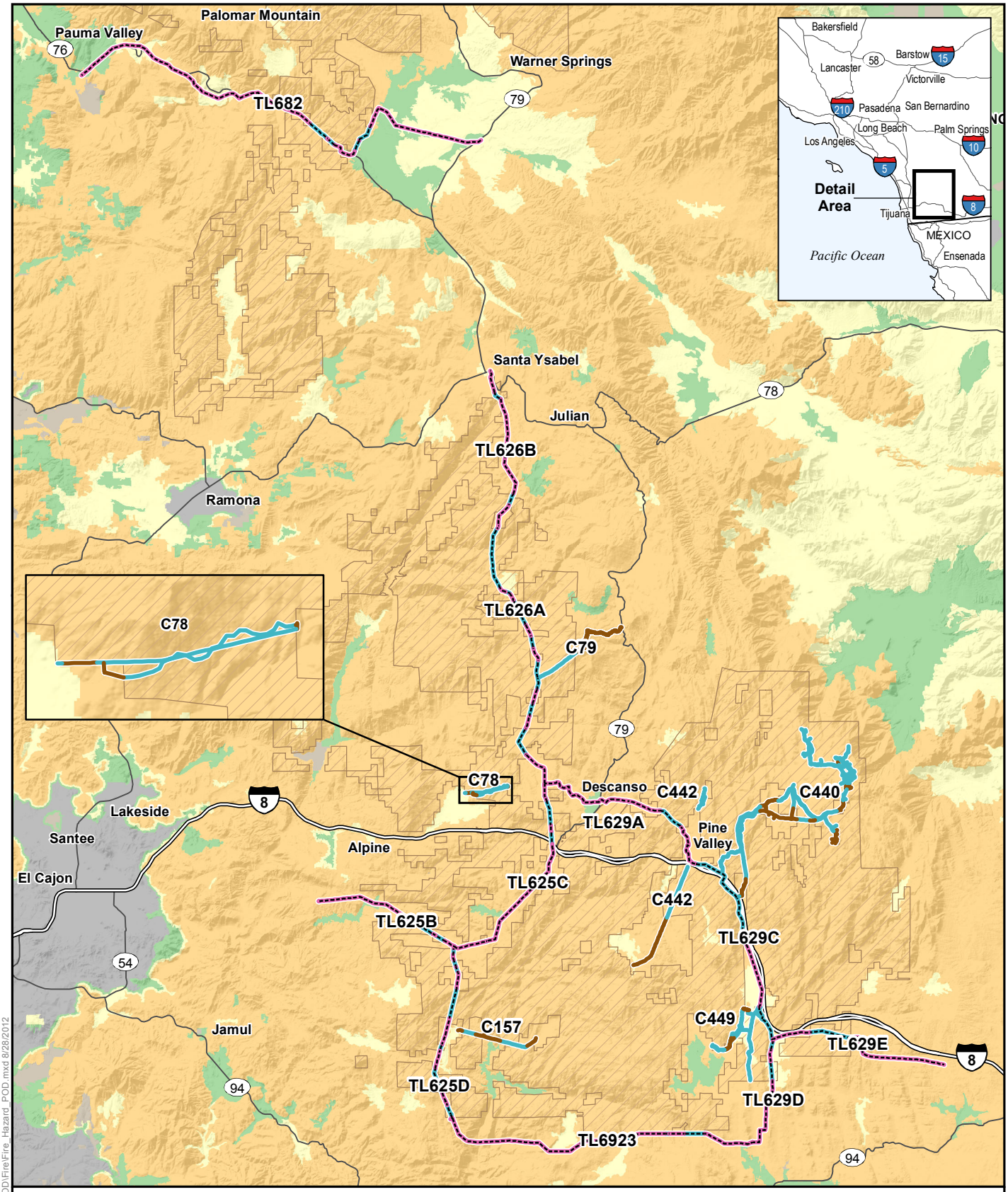

Figure 6: Fire Hazard Severity Map

CNF Preliminary Plan of Development

Fire Severity*

- Very High
- High
- Moderate
- Non-Wildland/Non-Urban
- Urban Unzoned

- Proposed Action
- Connected Actions
- Similar Actions
- *69 kV Power Line Shown with Dashed Line*

- United States Forest Service
- Interstate
- State Highway

Source: SDG&E, 2012; CAL FIRE, 2011

* FRAP data displayed is a composite of the most recent recommended and approved hazard classifications, composed of 2007 and 2008 datasets.

1 inch = 6 miles

0 2 4 6 Miles

SDGE A Sempra Energy utility

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existing ESP 113-1, which includes requirements for carrying emergency fire suppression equipment, conducting worker-awareness trainings that cover fire prevention and safety, restrictions on smoking and idling vehicles, and construction restrictions during RFWs. As part of the Proposed Action and consistent with ESP 113-1, SDG&E would also implement the SDG&E Operation and Maintenance Project Fire Plan (CNF Fire Plan) to assist in safe practices to prevent fires in the Proposed Action area. The CNF Fire Plan takes into consideration the USFS PAL designations, and includes standard measures such as equipping diesel and gasoline-operated engines with spark arrestors; carrying emergency fire suppression equipment; furnishing a water truck on or immediately adjacent to Proposed Action work areas; and requiring construction crews to cease work during an RFW. This plan takes into account local fuels, weather, and topography in its avoidance and minimization measures in order to reduce the threat of an ignition of a wildland fire. The plan also exceeds fire prevention measures as stated in California Forestry Practice Rules 2012, Title 14, California Code of Regulations Chapters 4, 4.5, and 10. No construction activities would occur during extreme weather conditions or on red flag days.

Consistent with ESP 113-1 and the CNF-specific fire plan, prior to starting construction activities, SDG&E would clear dead and decaying vegetation from Proposed Action work areas where personnel are active or where equipment is in use or being stored within ROWs, staging areas, stringing sites, and access roads. Cleared dead and decaying vegetation would either be removed or chipped and spread on site. In addition, prescribed fire tools and backpack pumps with water would be kept within 50 feet of work activities, in accordance with ESP 113-1, to ensure the capability for rapid extinguishment in the event of a fire. Weather and fire danger would be monitored daily by SDG&E meteorologists and wildland fire specialists in order to provide timely and immediate communication of significant changes which could impact the Proposed Action. As noted previously, no work would occur during times of high fire threat, and if conditions change after construction has commenced, work would cease in periods of extreme fire danger, such as during RFWs or other severe fire weather conditions as identified by SDG&E.

Operation and maintenance of the electric lines included in the Proposed Action would not differ substantially from that of the existing facilities. Potential fire hazards would be reduced following construction of the Proposed Action due to the fact that many of the 69 kV power line poles that are being replaced are made of wood, and the new poles would be made of steel and have greater clearance above the ground and existing vegetation. SDG&E would continue to implement EDO 3017, as described in Section 7.4 Fire Preparedness, to ensure that the proper steps are taken to maintain fire safety while meeting all operational and service requirements.

The Proposed Action is being undertaken in part to minimize the risk of wildfires that exists when certain atmospheric conditions occur within geographic areas designated as having high- to extreme-risk fire threats. The Proposed Action is consistent with SDG&E's long-term plan to improve service reliability in fire-prone areas through system hardening or other enhancements. The Proposed Action would replace existing wood pole structures with new steel pole structures designed to withstand higher wind speeds; increase conductor spacing to maximize line clearances; install new conductors and remove weak spliced locations; and install longer polymer insulators to minimize contamination which would improve system reliability during extreme weather conditions. With these Proposed Action design features, exposure of people or

structures to loss, injury, or death involving wildland fires would not pose a significant risk, but would, in fact, be significantly reduced by comparison with the existing conditions.

10.3.1 Connected Actions

Impacts from fire hazards due to Connected Actions would be similar to those described for the Proposed Action; however, approximately 80 percent of Connected Actions components would be located in an area of very high fire threat classification. FRAP data for Connected Actions areas are also depicted in Figure 6: Fire Hazard Severity Map.

10.3.2 Similar Actions

Impacts from fire hazards due to Similar Actions would be similar to those described for the Proposed Action; however, approximately 97 percent of Similar Actions components would be located in an area of very high fire threat classification. FRAP data for Similar Actions areas are also depicted in Figure 6: Fire Hazard Severity Map.

10.4 HYDROLOGY

The following section describes water resources and potential impacts to hydrology and water quality resulting from the Proposed Action, Connected Actions, and Similar Actions.

10.4.0 Proposed Action

Water resources and potential impacts to hydrology and water quality resulting from construction, operation, and maintenance of the Proposed Action were evaluated through reconnaissance-level surveys of the Proposed Action area, as well as a review of watershed and groundwater basin maps, Basin Plans and Urban Runoff Management Program documents for the Proposed Action area, inventories of impaired waterbodies, documents from the California Department of Water Resources (DWR) and the SWRCB, and other sources listed in Section 11 – References. Local plans were reviewed for relevant policies regarding water quality and protection. U.S. Geological Survey (USGS) 7.5-minute series quadrangle maps and aerial photography of the Proposed Action area were also examined to identify major water features and drainage patterns. Hydrologic features were then confirmed on the ground and additional features were noted during field surveys conducted between February and April 2012. Field surveys were limited to all locations identified for new and replacement steel poles; all Proposed Action staging areas, stringing sites, and other work areas; and a 50-foot buffer around each pole location and work area. These areas were assessed for potentially jurisdictional wetlands or waters of the U.S., based on the presence of hydrophytic vegetation, ordinary high water mark (OHWM), connectivity to blue-line drainages, and hydrology. Erosional features (gullies and rills) present within the 50-foot buffer were also documented at each site. However, a wetland delineation (in accordance with the 1987 USACE Wetland Delineation Manual) was not performed.

USFS-identified riparian conservation areas (RCAs) were also identified and included for consideration during project design to avoid the construction of replacement steel poles within these areas, where possible. These ecosystems contain aquatic and terrestrial features and lands adjacent to perennial, intermittent, and ephemeral streams, as well as in and around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps, springs, and other bodies of water. The

USFS has identified these RCAs to protect riparian and aquatic ecosystems and the dependent natural resources associated with them during site-specific project planning and implementation. In accordance with the USFS' CNF Land Management Plan Goal 5.2, SDG&E included these areas for consideration during project design and avoided, where possible, the placement of steel poles and temporary work areas within RCAs to the extent feasible. As a result, the Proposed Action will temporarily impact approximately 8.76 acres of RCAs during construction, and will permanently impacts approximately 0.05 acres of these areas from the construction of the replacement steel poles. There is approximately 62,725 acres of identified RCAs within the Proposed Action area; as a result, these temporary and permanent impacts will be minor. Table 26: Temporary and Permanent Impacts to RCAs describes these potential impacts in greater detail.

Table 26: Temporary and Permanent Impacts to RCAs

Line	Approximate Number of Direct-Bury Poles	Approximate Number of Self-Supporting Steel Poles	Approximate Number of Work Areas	Temporary Impact (acres)	Permanent Impact (acres)
TL625	1	3	2	0.5	0
TL626	22	7	2	0.7	0
TL629	36	22	4	3.7	<0.1
TL682	11	5	1	0.5	<0.1
TL6923	10	2	2	0.2	0
C78	0	0	2	<0.1	0
C79	0	0	0	0	0
C157	11	0	0	<0.1	0
C440	99	0	67	1.8	<0.1
C442	47	0	6	0.4	0
C449	18	0	78	0.9	0
Total	**243**	**35**	**164**	**8.8**	**<0.1**

The Proposed Action components cross over or come within close proximity to various named rivers, creeks and other waterbodies, including the following:

- Sweetwater River,
- Taylor Creek,
- Wilson Creek,
- San Diego River,
- Sentenac Creek,
- Temescal Canyon Creek,

- Kelly Creek,
- Boulder Creek,
- Samagatuma Creek,
- Pine Valley Creek,
- Kitchen Creek,
- La Posta Creek,
- San Luis Rey River,
- Prisoner Creek,
- Wigham Creek,
- Cottonwood Creek,
- Potrero Creek,
- Hauser Creek,
- Viejas Creek, and
- Oak Valley Creek.

In addition, many unnamed, intermittent creeks and drainages are present throughout the Proposed Action area. All hydrological features identified within the Proposed Action area are shown in Attachment A: Detailed Route Maps. Hydrologic features located within pole work areas (measuring approximately 40 feet in diameter for 69 kV power line poles and 20 feet in diameter for 12 kV distribution line poles), stringing sites, and fly yards are described in Table 27: Potentially Jurisdictional Waters within Proposed Action Work Areas. Impacts to these hydrologic features have the potential to result from sediment runoff or erosion resulting from clearing and grading activities associated with the creation of work areas, stringing sites, staging areas, and fly yards; pole installation and removal; vegetation clearing; and changing run-off patterns during rain and snowmelt if temporarily disturbed areas are not stabilized.

The Proposed Action would require implementation of an SWPPP and would comply with USFS requirements pertaining to hydrology and water quality, as detailed in the USFS's Water Quality Management for National Forest System Lands in California, Best Management Practices. The SWPPP would identify BMPs for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs would then be implemented and monitored throughout the Proposed Action by a Qualified SWPPP Practitioner. In addition, SDG&E would implement its Water Quality Construction Best Management Practices Manual (BMP Manual). During any construction activities, SDG&E would flag all hydrological resources occurring within work areas for avoidance, and all construction activities would occur outside of these resources. Where resource flagging and avoidance would not completely eliminate the potential for impacts to these resources, or where construction activities would be required to some extent within the mapped boundaries of a hydrological resource, SDG&E would implement the following APMs:

- APM-HYD-01: All concrete washouts will be conducted either into excavations where the concrete was poured within designated concrete washout stations, or will be captured using a washout recycling system. Crews will not be allowed to dispose of concrete directly onto the ground.

Table 27: Potentially Jurisdictional Waters within Proposed Action Work Areas

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
D-00	TL625	Wildwood Glen Fly Yard B	Unnamed	Drainage	Ephemeral
D-01	TL625	Z272918	Unnamed	Drainage	Ephemeral
D-03	TL625	Z273014	Unnamed	Drainage	Ephemeral
D-05	TL625	Z273016	Unnamed	Drainage	Ephemeral
D-13	TL625	SS 18B	Unnamed	Drainage	Ephemeral
D-19	TL625	135624	Unnamed	Drainage	Ephemeral
D-00	TL626	SS 14	Unnamed	Drainage	Ephemeral
D-01	TL626	SS 14	Unnamed	Drainage	Ephemeral
D-04	TL626	Z372154	Unnamed	Drainage	Ephemeral
D-06	TL626	Z372163	Unnamed	Drainage	Ephemeral
D-16	TL626	SS 2	Unnamed	Drainage	Ephemeral
D-16	TL626	Z213741	Unnamed	Drainage	Ephemeral
F-02	TL626	Z213644	Unnamed	Swale	Not Applicable (NA)
F-02	TL626	Z213644	Unnamed	Swale	NA
W-03	TL626	Z213671	Unnamed	Meadow	NA
D-02	TL629	Z44163	Unnamed	Drainage	Ephemeral
D-03	TL629	Z44173	Unnamed	Drainage	Ephemeral
D-10	TL629	Z276633	Unnamed	Drainage	Intermittent
D-13	TL629	SS 30	Unnamed	Drainage	Ephemeral
D-13	TL629	Z40252	Unnamed	Drainage	Ephemeral
D-15	TL629	Z40503	Unnamed	Drainage	Lower Perennial
D-15	TL629	Z40505	Unnamed	Drainage	Lower Perennial
D-16	TL629	Z40507	Unnamed	Drainage	Ephemeral
D-24	TL682	SS 7	Unnamed	Drainage	Intermittent
D-03	C78	P-18	Unnamed	Drainage	Ephemeral
D-04	C78	P166377	Unnamed	Drainage	Ephemeral
D-07	C440	P40126	Unnamed	Drainage	Ephemeral
D-08	C440	P40127	Unnamed	Drainage	Ephemeral
D-09	C440	P40127	Unnamed	Drainage	Ephemeral

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
D-10	C440	P40452	Unnamed	Drainage	Ephemeral
D-11	C440	P40128	Unnamed	Drainage	Ephemeral
D-29	C440	P40050	Unnamed	Drainage	Intermittent
W-00	C440	P40087	Unnamed	Wetland	NA
W-01	C440	P40080	Unnamed	Wetland	NA
W-02	C440	P40129	Unnamed	Wetland	NA
W-06	C440	P40177	Unnamed	Wetland	NA
W-15	C440	SS 4604	Unnamed	Wetland	NA
D-02	C442	P178049	Unnamed	Drainage	Perennial
D-03	C442	P178049	Unnamed	Drainage	Perennial
D-04	C442	P178044	Unnamed	Drainage	Ephemeral
D-05	C442	P178042	Unnamed	Drainage	Perennial
D-06	C442	P178039	Unnamed	Drainage	Ephemeral
D-10	C442	P178030	Unnamed	Drainage	Ephemeral
D-10	C442	SS346A	Unnamed	Drainage	Ephemeral
D-05	C449	P42798	Unnamed	Drainage	Ephemeral

- APM-HYD-02: When construction activities are required adjacent to flowing aquatic resources, sediment barriers will be placed between the work area and flowing water.

- APM-HYD-03: In areas where topsoil has not been salvaged, construction activities will be limited when the environmental monitor determines that the soil is too wet to adequately support vehicles and equipment. Where soil conditions are deemed too wet to work, one of the following measures will apply:

  - Access will be limited to the minimum area feasible for construction. Where possible, vehicles and equipment will be routed around wet areas so long as the re-route does not cross into sensitive resource areas.

  - If wet areas cannot be avoided and soil moisture is too high to strip topsoil, BMPs—including the use of wide-track or low ground pressure equipment or installation of prefabricated equipment pads or timber mats—will be implemented for use in these areas to minimize rutting and off-site sedimentation.

- APM-HYD-04: Any areas not surveyed for potentially jurisdictional wetlands or waters due to limited access will be surveyed prior to the start of construction activities and potential impacts will be assessed.

There are two locations where existing poles are, or where replacement poles would be located, below the OHWM of hydrological features, including pole Z44173 along TL629, and pole P40452 along C440. Removal or replacement of these poles has the potential to contribute sediment to nearby resources as a result of ground disturbance and excavation at the work sites. SDG&E has proposed APM-HYD-02 to minimize work within existing hydrological features. The minimal increase in impermeable surface would not substantially increase the existing velocity or volume of storm water flows either on site or in off-site areas. As such, flow rates and volumes would not be substantially altered. Therefore, existing drainage patterns on site would not change significantly from pre-construction conditions. A total of approximately 3.9 square feet (less than 0.001 acre) of potentially jurisdictional waters would be permanently impacted during construction of the Proposed Action. Estimates regarding the permanent impact resulting from the installation of poles placed below the OHWM in potentially USACE-jurisdictional waters are provided in Table 28: Estimated Permanent Impact to Waters of the U.S. – Proposed Action

Table 28: Estimated Permanent Impact to Waters of the U.S. – Proposed Action

Line	Estimated Number of Direct-Bury Poles	Estimated Number of Self-Supporting Steel Poles	Permanent Impact (square feet)
TL629	0	1	1.9
C440	1	0	2.0
Total	**1**	**1**	**3.9**

The installation of direct-bury steel poles would require the excavation of holes approximately 20 to 48 inches in diameter and approximately seven to 12 feet deep. Self-supported steel poles would be installed on micro-pile foundations. Micro-pile foundation installation would require the excavation of holes approximately eight inches in diameter by approximately 10 to 40 feet deep. Poles that encounter groundwater may require dewatering, which can increase the potential for sedimentation if not performed properly. However, dewatering would not likely be necessary due to the small diameter of the excavation holes. The area with the highest possibility of needing dewatering is in Cottonwood Valley, along the TL629 and C449 lines. The depth to groundwater varies widely depending on location and ranges from five feet to approximately 100 feet. Surface waters are present in this area, including La Posta Valley Creek and Kitchen Creek. If dewatering is required, dewatering systems—as outlined in SDG&E's BMP Manual—would be used to dispose of groundwater. Typically, groundwater would be pumped into a tank and either discharged to land in accordance with RWQCB regulations or transported to an authorized discharge location. Excavated holes would need to be backfilled with concrete. For direct-bury steel poles, the annular space between replacement steel poles and hole walls would be backfilled with concrete. For self-supported steel poles, a steel rod would be inserted into the hole and centered, and the remaining space filled with a mixture of water, cement, and sand. Use of concrete near aquatic resources, combined with storm water run-off, has the potential to affect water quality by increasing pH. Where concrete use is required near waterways, APM-HYD-01 and APM-HYD-02 would be implemented to minimize impacts.

A portion of the Proposed Action is within a watershed that drains to a 303(d)-listed waterbody. Cottonwood Creek, which is within the Tijuana Rivershed along TL629, is located approximately 40 feet from a work area. Specific requirements would be incorporated into the SWPPP, including appropriate BMPs and a sampling and monitoring plan. Implementation of site-specific erosion and sediment control devices and the proper handling of potentially hazardous materials would ensure that the Proposed Action does not contribute to the pollutant load for Cottonwood Creek.

The operation and maintenance activities required for the Proposed Action would be similar to those currently conducted for the existing lines. In addition, less frequent maintenance of the electric lines would be required in comparison to what is currently needed for the existing wood poles. Following construction, the ROW, work areas, stringing sites, staging areas, and fly yards would be returned to pre-construction conditions, which include re-establishing drainage patterns and vegetation, where feasible. Existing access roads would be utilized to access the replacement structures where helicopter-only access is not required. Because no new roads would be constructed, there would be no new impacts associated with operation and maintenance of the Proposed Action.

By following the USFS' Water Quality Management for National Forest System Lands in California, Best Management Practices, and with implementation of SDG&E's BMP Manual, the SWPPP, and the APMs identified in this section, any potential impacts to hydrological resources from the Proposed Action would be minor.

10.4.1 Connected Actions

Water resources and potential impacts to hydrology and water quality resulting from construction, operation, and maintenance of Connected Actions are the same as those described for the Proposed Action. Differences from the Proposed Action are summarized in this section.

Several of the proposed poles and work areas outside of the CNF were not accessible due to landowner restrictions or other access issues. These areas are listed in Table 29: Connected Actions Areas Not Surveyed. A total of 43 poles and two stringing sites were not surveyed for potentially jurisdictional wetlands or waters of the U.S. for Connected Actions.

Table 29: Connected Actions Areas Not Surveyed

Line	Number of Poles	Number of Work Areas
TL629	40	0
TL6923	3	2
Total	**43**	**2**

Connected Actions components cross over or come within close proximity to rivers, creeks and other waterbodies. Additional waters not mentioned in the Proposed Action include Loveland Reservoir, Lake Henshaw, Potrero Creek, Buena Vista Creek, Barrett Lake, San Diego City Conduit, Cedar Creek, Orinoco Creek, and King Creek. Hydrologic features located within pole work areas (measuring approximately 40 feet in diameter for 69 kV power line poles and approximately 20 feet in diameter for 12 kV distribution poles), stringing sites, and fly yards are described in Table 30: Potentially Jurisdictional Waters within Connected Actions Work Areas. Impacts to these hydrologic features are the same as those described for the Proposed Action.

There are five locations where existing poles are, or where replacement poles would be located, below the OHWM of hydrological features, including pole P273066 along TL625, pole Z371562 along TL626, pole Z41023 along TL629, and poles Z571488 and Z571489 along TL6293. Less than 0.001 acre of potentially jurisdictional waters would be permanently impacted during construction of Connected Actions. Estimates regarding the permanent impact resulting from the installation of poles placed below the OHWM in potentially USACE-jurisdictional waters are provided in Table 31: Estimated Permanent Impact to Waters of the U.S. – Connected Actions. The necessary information was not available to calculate impacts for the drainage located at pole P273066 along TL625. Impacts to water resources resulting from the removal or replacement of poles located below the OHWM of hydrological features are the same as those described for the Proposed Action.

Table 30: Potentially Jurisdictional Waters within Connected Actions Work Areas

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
D-00	TL625	Z272948	Unnamed	Drainage	Ephemeral
D-00	TL625	Z272920	Unnamed	Drainage	Ephemeral
D-01	TL625	SS A	Unnamed	Drainage	Ephemeral
D-01	TL625	Z272930	Unnamed	Drainage	Ephemeral
D-01	TL625	Z272959	Unnamed	Drainage	Ephemeral
D-01	TL625	Z272989	Unnamed	Drainage	Ephemeral
D-02	TL625	SS B	Unnamed	Drainage	Ephemeral
D-03	TL625	SS 10B	Unnamed	Drainage	Ephemeral
D-03	TL625	SS 12B	Unnamed	Drainage	Ephemeral
D-04	TL625	Z272929	Unnamed	Drainage	Ephemeral
D-04	TL625	Z273015	Unnamed	Drainage	Ephemeral
D-05	TL625	Z272929	Unnamed	Drainage	Ephemeral
D-06	TL625	SS 11B	Unnamed	Drainage	Ephemeral
D-07	TL625	P273066	Unnamed	Drainage	Ephemeral
D-08	TL625	P273066	Unnamed	Drainage	Ephemeral
D-08	TL625	SS 11B	Unnamed	Drainage	Ephemeral
D-09	TL625	P273066	Unnamed	Drainage	Ephemeral
D-09	TL625	Z272928	Unnamed	Drainage	Ephemeral
D-10	TL625	P273066	Unnamed	Drainage	Ephemeral
D-10	TL625	Z272927	Unnamed	Drainage	Ephemeral
D-11	TL625	Martin Staging Yard and Fly Yard	Unnamed	Drainage	Ephemeral
D-11	TL625	SS 16B	Unnamed	Drainage	Ephemeral
D-13	TL625	SS 4B	Unnamed	Drainage	Ephemeral
D-14	TL625	SS 1C	Unnamed	Drainage	Ephemeral
W-00	TL625	Z272947, Z272948	Unnamed	Meadow	NA

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
W-01	TL625	Martin Staging Yard and Fly Yard	Unnamed	Meadow	NA
A-01	TL626	SS 8	Unnamed	Artificial Pond	NA
A-02	TL626	SS 9	Unnamed	Artificial Pond	NA
A-02	TL626	Z213682	Unnamed	Artificial Pond	NA
A-03	TL626	Z213682	Unnamed	Artificial Pond	NA
A-04	TL626	Z213683	Unnamed	Artificial Pond	NA
A-05	TL626	Z213684	Unnamed	Artificial Pond	NA
A-06	TL626	Z213684	Unnamed	Artificial Pond	NA
D-09	TL626	Z371562	Unnamed	Drainage	Ephemeral
D-10	TL626	SS 13	Unnamed	Drainage	Ephemeral
D-14	TL626	Z213743	Unnamed	Drainage	Ephemeral
D-17	TL626	Z213711	Unnamed	Drainage	Ephemeral
W-01	TL626	Rutherford Staging Yard	Unnamed	Meadow	NA
D-00	TL629	Z172750	Unnamed	Drainage	Ephemeral
D-00	TL629	Z46628	Unnamed	Drainage	Ephemeral
D-00	TL629	Z41023	Unnamed	Drainage	Ephemeral
D-00	TL629	Z872454	Unnamed	Drainage	Intermittent
D-03	TL629	Z373147	Unnamed	Drainage	Intermittent
D-09	TL629	Z44195	Unnamed	Drainage	Ephemeral
D-22	TL629	Z40527	Unnamed	Drainage	Ephemeral
D-22	TL629	Z40528	Unnamed	Drainage	Ephemeral
D-23	TL629	SS 25	Unnamed	Drainage	Ephemeral
D-29	TL629	SS 27	Unnamed	Drainage	Ephemeral

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
F-00	TL629	Z173075	Samagatuma Creek	Drainage	Unknown
F-00	TL629	Z173076	Samagatuma Creek	Drainage	Unknown
W-00	TL629	Z44161	Unnamed	Seep	NA
D-01	TL682	SS 1	Potrero Creek	Drainage	Intermittent
D-06	TL682	SS 2	Unnamed	Drainage	Intermittent
D-07	TL682	Z118052	Unnamed	Drainage	Ephemeral
D-07	TL682	Z118053	Unnamed	Drainage	Ephemeral
D-08	TL682	Z118052	Unnamed	Drainage	Ephemeral
D-10	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-11	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-12	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-13	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-14	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-15	TL682	SS 4	Unnamed	Drainage	Ephemeral
D-16	TL682	Z118063	Unnamed	Drainage	Intermittent
D-19	TL682	Z118122	Unnamed	Drainage	Ephemeral
D-26	TL682	SS 10	Unnamed	Drainage	Ephemeral
D-32	TL682	Z118234	Unnamed	Drainage	Ephemeral
D-34	TL682	Z215013	Unnamed	Drainage	Intermittent
W-01	TL682	Lake Henshaw Staging Yard	Unnamed	Meadow	NA
W-03	TL682	SS 13	Unnamed	Meadow	NA
W-04	TL682	Z118189	Unnamed	Meadow	NA
W-05	TL682	SS 15	Unnamed	Meadow	NA
W-06	TL682	SS 16	Unnamed	Meadow	NA
W-08	TL682	Z118203	Unnamed	Meadow	NA
W-09	TL682	Z118206	Unnamed	Meadow	NA
D-00	TL6923	SS 31	Unnamed	Drainage	Ephemeral
D-00	TL6923	Z46627	Unnamed	Drainage	Ephemeral

Identification Number	Electric Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
D-00	TL6923	SS 32	Unnamed	Drainage	Ephemeral
D-03	TL6923	SS 31	Unnamed	Drainage	Ephemeral
D-03	TL6923	Z571489	Unnamed	Drainage	Ephemeral
D-04	TL6923	Z571488	San Diego City Conduit	Drainage	Perennial
D-05	TL6923	Z46578	Unnamed	Drainage	Ephemeral
D-06	TL6923	Z571488	Unnamed	Drainage	Ephemeral
D-16	TL6923	SS 13	Unnamed	Drainage	Ephemeral

Table 31: Estimated Permanent Impact to Waters of the U.S. – Connected Actions

Line	Estimated Number of Direct-Bury Poles	Estimated Number of Self-Supporting Steel Poles	Permanent Impact (square feet)
TL625	0	1	Not Available
TL626	1	0	1.2
TL629	0	1	2.6
TL6923	0	2	19.1
Total	**1**	**4**	**Not Available**

The impacts associated with the installation and removal of poles are similar to those described in the Proposed Action. Although dewatering would not likely be necessary for Connected Actions, there are several areas where components cross over groundwater basins, including Campo Valley, San Luis Rey Valley, and Warner Valley along the TL629 and TL682 lines. The depth to groundwater varies widely depending on location, and ranges from zero feet to approximately 100 feet. Surface waters and waterbodies are present in these areas, including Potrero Creek in San Luis Rey Valley and Buena Vista Creek in Warner Valley. If dewatering is required, dewatering systems would be used to dispose of groundwater into truck-mounted storage tanks for off-site disposal.

Portions of Connected Actions work areas are within watersheds that drain to 303(d)-listed waterbodies. These waterbodies include the San Luis Rey River along TL682, Morena Reservoir along TL6923, and Loveland Reservoir along TL625. Distances from these work areas to impaired waterbodies range from 110 to 8,000 feet. As described in Section 10.4.0 Proposed Action, specific requirements would be incorporated into the SWPPP that would ensure Connected Actions do not contribute to the pollutant load for the 303(d)-listed water resource located within the vicinity of the work areas.

10.4.2 Similar Actions

Water resources and potential impacts to hydrology and water quality resulting from construction, operation, and maintenance of Similar Actions are the same as those described for the Proposed Action. Differences from the Proposed Action are summarized in this section.

Hydrologic features located within Similar Actions work areas (each measuring approximately 40 feet in diameter), stringing sites, and fly yards are described in Table 32: Potentially Jurisdictional Waters within Similar Actions Work Areas. Impacts to these hydrologic features are the same as those described for the Proposed Action.

Several of the proposed poles outside of the CNF were not accessible due to landowner restrictions or other access issues. These areas are listed in Table 33: Similar Actions Areas Not Surveyed. A total of 75 poles were not surveyed for potentially jurisdictional wetlands or waters of the U.S. for Similar Actions.

Table 32: Potentially Jurisdictional Waters within Similar Actions Work Areas

Identification Number	Line	Pole Reference or Work Area Number	Name of Waterbody	Feature Type	Flow Characteristic
D-00	C440	P40136	Unnamed	Drainage	Ephemeral
D-03	C440	P45116	Unnamed	Drainage	Ephemeral
D-13	C440	P40199	Unnamed	Drainage	Ephemeral
W-01	C440	P40335	Unnamed	Wetland	Not Available
W-05	C440	P40171	Unnamed	Wetland	Not Available
D-00	C449	P104078	Unnamed	Drainage	Ephemeral
D-06	C449	P46464	Unnamed	Drainage	Ephemeral
D-07	C449	P-37	Unnamed	Drainage	Ephemeral

Table 33: Similar Actions Areas Not Surveyed

Line	Number of Poles	Number of Work Areas
C79	2	0
C157	7	0
C440	58	0
C449	8	0
Total	**75**	**0**

There are no locations where existing poles are or where replacement poles would be located below the OHWM of hydrological features for Similar Actions.

10.5 NOISE

The following section describes noise and potential impacts to noise resulting from the Proposed Action, Connected Actions, and Similar Actions.

10.5.0 Proposed Action

The evaluation of potential noise and vibration impacts from the Proposed Action began with a review of San Diego County's noise standards. To establish the background noise levels in the Proposed Action area, 25-hour noise surveys were conducted from June 8 to 10, 2011; August 31 to September 1, 2011; and September 2 to 8, 2011. The Noise Study Report describes the methodology and equipment used for noise measurement during these surveys and the resulting modeling of potential impacts. After characterizing the existing noise environment, the survey results and estimated noise levels of the typical major construction equipment to be used during Proposed Action construction were used to calculate potential noise levels from the Proposed Action.

Construction noise would be temporary, and noise levels would vary from hour to hour and day to day, depending on the equipment in use and the task being performed. Construction activities would require the temporary use of various types of noise-generating equipment, including graders, backhoes, drilling rigs, flatbed trucks, boom trucks, air compressors, concrete trucks, and impact equipment. Conductor stringing operations would require pullers, tensioners, and cable reel trailers. Helicopters would be used to deliver and remove construction material from areas with rugged terrain and where ground access would not safely accommodate the required construction equipment and vehicles. Typical noise levels from construction equipment are provided in the Noise Study Report.

The inventory of equipment that would be utilized during Proposed Action construction was used to determine average eight-hour noise emissions—equivalent noise level (L_{eq}) (day)—based on the estimated average hours of operation per day and the typical usage at maximum noise levels. The total L_{eq}(day) was computed for each scheduled activity category for each piece of equipment. Helicopters were assumed to operate at a height of approximately 50 feet when delivering equipment and materials, and when assisting with the installation and removal of poles and conductor, except during landing and takeoff.

Construction of the Proposed Action would result in temporary increases in noise levels in the immediate vicinity as a result of the use of construction equipment. Equipment used to construct the Proposed Action may include graders, backhoes, drilling rigs, flatbed trucks, boom trucks, air compressors, concrete trucks, and impact equipment. Potential impact zones were developed by determining the distance from each construction activity where San Diego County guidelines were surpassed. These zones are summarized in Table 34: Zones of Potential Construction Noise Impacts.

Table 34: Zones of Potential Construction Noise Impacts

Activity	Distance to L_{eq} = 75 dBA[13] (feet)
Improve Access Roads	<25
Construction Micro-pile Pole Foundation (Helicopter Set)	590
Construct Micro-pile Pole Foundation (Truck Set)	180
Install Micro-pile Pole (Helicopter Set)	400
Install Micro-pile Pole (Truck Set)	80
Construct Direct-Bury Pole (Helicopter Set)	330
Construct Direct-Bury Pole (Truck Set)	190
Pole Removal (Ground Access)	<25
Pole Removal (No Ground Access)	280
String Conductor	100
Restore ROW	150

In order to reduce noise impacts, SDG&E would implement the following APMs:

- APM-NOI-01: SDG&E will provide notice of the construction schedule to all property owners within 300 feet of the Proposed Action by mail at least one week prior to the start of construction activities. The announcement will state the construction start date, anticipated completion date, and hours of operation, as well as a telephone number to call with questions or complaints during construction.

- APM-NOI-02: Operating equipment will be positioned to maximize the distance to residences and to maintain safe and effective operation.

- APM-NOI-03: All internal combustion engine-driven equipment will be equipped with exhaust mufflers that are in good condition and meet or exceed the manufacturer's specifications. All equipment will be maintained and tuned according to manufacturer recommendations.

- APM-NOI-04: When backup alarms have more than one loudness setting, they will be set to the lowest setting that meets Occupational Safety and Health Administration safety requirements.

[13] dBA = an A-weighted decibel. The human ear is not uniformly sensitive to all sound frequencies; therefore, the A-weighting scale has been devised to correspond with the human ear's sensitivity. The A-weighting scale uses the specific weighting of sound pressure levels from about 10 hertz to 20 kilohertz for determining the human response to sound.

- APM-NOI-05: When located within 80 feet of residences, a temporary noise barrier with an effective height of approximately three feet will be placed between residences and stationary noise-generating equipment during use. The effective height is that of the barrier above the line-of-sight between the noise source and the noise-sensitive receiver.

- APM-NOI-06: Helicopters will be required to maintain a height of at least 500 feet when passing over residential areas, except when at temporary construction areas or actively assisting with conductor stringing. All helicopters will be required to maintain a lateral distance of at least 500 feet from all schools.

- APM-NOI-07: Residents who experience construction noise levels that exceed the applicable noise thresholds will be temporarily relocated, on an as-needed basis, for the duration of the activities that will impact them.

As shown in Table 34: Zones of Potential Construction Noise Impacts, any residences located within approximately 180 feet of micro-pile pole foundation construction, or within approximately 190 feet of direct-bury pole construction, may be exposed to eight-hour average noise levels in excess of 75 dBA during pole installation and removal activities. In addition, any residences located within approximately 100 feet of stringing sites along the electric lines may be exposed to eight-hour average noise levels in excess of 75 dBA during pulling activities. These construction activities would be dispersed across the electric lines throughout the approximately five-year construction period. Because the project would be constructed in a linear fashion, construction crews would move along the electric lines, staying at one pole work area for as long as seven days at a time, then revisiting the same area later during the construction process. Stringing activities would be performed at each stringing site for approximately one week.

Some of the equipment may cause groundborne vibrations and groundborne noise; however, this equipment would be used intermittently throughout the duration of construction. It is unlikely that groundborne noise or vibration would be detected by the general public due to the remoteness of the Proposed Action area. Due to the relatively short-term nature of the exposure, and with the implementation of APM-NOI-01 through APM-NOI-07, impacts from noise and groundborne vibration would be minimal.

The addition of one new 69 kV circuit each for the single- to double-circuit conversion along TL625B and TL629E would cause a small increase in the audible corona noise in these areas; however, this noise would be intermittent and generally masked by other noise sources, such as local traffic and weather events. All other electric lines included in the Proposed Action would continue to operate at their current voltages and number of circuits and, therefore, the audible corona noise from these lines would not change from the existing condition. Additional noise sources associated with operation and maintenance of the electric lines would include vegetation clearance, as needed, and annual inspections and other procedures to maintain service continuity. Because operation and maintenance activities would not change from the existing practices, there would be no change in noise levels.

Due to the short-term nature of noise impacts, the length of the construction schedule, and the size of the Proposed Action area over which these impacts would be spread, in addition to the implementation of the aforementioned APMs, potential noise impacts would be minimal.

10.5.1 Connected Actions

Impacts from noise due to Connected Actions would be similar to those described for the Proposed Action. SDG&E would also implement APM-NOI-01 through APM-NOI-07 for Connected Actions, which would minimize any potential noise impacts during construction. No noise impacts beyond what currently exists along those portions of the electric lines included as Connected Actions would occur during operation and maintenance of the electric lines.

10.5.2 Similar Actions

Impacts from noise due to Similar Actions would be similar to those described for the Proposed Action. SDG&E would also implement APM-NOI-01 through APM-NOI-07 for Similar Actions. No noise impacts beyond what currently exists along those portions of the electric lines included as Similar Actions would occur during operation and maintenance of the electric lines.

10.6 TRANSPORTATION AND TRAFFIC

The following section describes transportation and traffic and potential impacts to transportation and traffic resulting from the Proposed Action, Connected Actions, and Similar Actions.

10.6.0 Proposed Action

Transportation and traffic data were obtained primarily through relevant literature and Internet research. Relevant literature reviewed included the San Diego County General Plan, the USFS National Forest Road System and Use report, and various documents regarding road guidelines, classification, and traffic volumes through the San Diego County Department of Public Works and Department of Transportation Planning website. The Caltrans District 11 website was also consulted for state highway traffic volume information. Additional information was gathered through personal communication with San Diego County transportation, traffic, and planning staff. Site visits were conducted to most public roadways that could be directly affected by the Proposed Action.

The Proposed Action is located in the central portion of San Diego County and would cross a network of state, county, and private roadways. Figure 2: Proposed Action Components Map depicts major state and county routes within the Proposed Action area. Table 35: Public Access Roadways lists the major and local roadways that would be used for access during construction. Table 36: Public Roadways Spanned by 69 kV Power Lines and Table 37: Public Roadways Spanned by 12 kV Distribution Lines list the major and local roadways that would be spanned by 69 kV power lines and 12 kV distribution lines, respectively, along with their classification, number of lanes, and Level of Service (LOS) information, where available.[14]

[14] LOS is based on traffic congestion, measured by dividing traffic volume by roadway capacity. The resulting number, known as the volume-to-capacity (V/C) ratio, usually ranges from 0 to 1.0. The V/C ratings are divided into six LOS categories, A through F, representing conditions ranging from unrestricted traffic flow (A) to extreme traffic congestion (F).

Table 35: Public Access Roadways

Roadway	Classification	Number of Lanes	LOS
I-8	Expressway/Freeway	4 to 6	A-C
Old Highway 80	Arterial Rural	2	A-D
SR-94	Community Collector	2	A-C
SR-76	Minor Arterial	2	B
SR-78	Collector Urban	2	A-C
SR-79	Rural Minor Arterial	2	B
Barrett Lake Road	Collector Rural	2	A-C
Bell Bluff Truck Trail	Minor Rural	2	--
Big Potrero Truck Trail	Other Roadway[15]	1	--
Boulder Creek Road	Collector Rural	2	A-C
Buckman Springs Road	Collector Rural	2	A-C
Cam Tres Aves	Other Roadway	1	--
Cameron Truck Trail	Other Roadway	1	A-C
Campbell Ranch Road	Permanent Road Division (PRD)/Municipal/Private Road[16]	2	--
Carveacre Road	Minor Rural	2	--
Chris Lane	Other Roadway	1	--
Church Road	Other Roadway	1	--
Cinnamon Drive	Other Roadway	1	--
Calle El Potrero	Other Roadway	2	--
Corral Canyon Trail	Other Roadway	2	--
Corte Madera Road	Minor Rural	2	A-C
Deodar Trail	Minor Rural	2	--
Eagle Pass	Other Roadway	1	--
East Grade Road	Collector Rural	2	--
Guatay View Lane	Minor Rural	2	--
Hamilton Lane	Minor Urban	2	--
Hauser Creek Road	Other Roadway	1	--

[15] Other Roadway refers to roads that are not maintained by San Diego County, Caltrans, or private parties. As a result, no official classification or LOS information is available for these roads.

[16] PRD/Municipal/Private Roads are county, municipal, and private roads that are not maintained by San Diego County. As a result, no official classification or LOS information is available for these roads.

Roadway	Classification	Number of Lanes	LOS
Henshaw Road	Other Roadway	1	--
Hidden Glen Drive	Other Roadway	2	--
Hoskings Ranch Road	Other Roadway	1	--
Hulburd Grove Drive	Minor Rural	2	--
Illahee Drive	Other Roadway	1	--
Japatul Road	Collector Rural	2	A-C
Japatul Valley Road	Collector Rural	2	A-C
Kitchen Creek Road	Arterial Rural	2	A-C
La Jolla Truck Trail	Other Roadway	2	--
La Posta Circle	Other Roadway	1	--
La Posta Road	Collector Rural	2	A-C
La Posta Truck Trail	Other Roadway	1	--
Lake Morena Drive	Collector Rural	2	A-C
Larry Lane	Other Roadway	1	--
Lebanon Road	Minor Rural	2	--
Los Huecos Road	Minor Rural	2	--
Lyons Valley Road	Collector Rural	2	A-C
Maggio Drive	Other Roadway	1	--
Manzanita Lane	Minor Rural	2	--
Meadow Lane	Other Roadway	2	--
Merrigan Fire Road	Other Roadway	1	--
Miller Valley Road	Minor Rural	2	--
Mizpah Lane	PRD/Municipal/Private Road	1	--
Morris Ranch Road	PRD/Municipal/Private Road	1	--
Nature’s Way	Other Roadway	1	--
Oak Drive	Collector Rural	2	A-C
Oak Grove Drive	Minor Rural	2	--
Old Buckman Springs Road	Minor Rural	2	--
Pine Creek Road	Minor Rural	2	A-C
Pine Valley Road	Minor Rural	2	A-C
Poomacha Road	Other Roadway	1	--
Red Hawk Ridge	Other Roadway	1	--

Roadway	Classification	Number of Lanes	LOS
River Drive	Arterial Rural	2	--
Round Potrero Road	Collector Rural	2	--
Sengme Oaks Road	Other Roadway	1	--
Sequan Truck Trail	Collector Rural	2	--
Skye Valley Road	PRD/Municipal/Private Road	1	--
Spargur Road	Other Roadway	1	--
Spice Way	Other Roadway	1	--
Stagecoach Springs Road	Other Roadway	1	--
Sundance View Lane	Other Roadway	1	--
Sunrise Highway	Collector Rural	2	A-C
Tecate Cypress Trail	Other Roadway	1	--
Tribal Store Road	Other Roadway	1	--
Thyme Way	Other Roadway	1	--
Valley Center Road	Collector Urban	2	--
Viejas Boulevard	Other Roadway	2	--
Viejas Grade Road	Collector Rural	2	A-C
Wildwood Glen Lane	Minor Urban	2	--

Sources: San Diego County, 2006, 2008, and 2011; Caltrans, 2008 and 2009

Table 36: Public Roadways Spanned by 69 kV Power Lines

69 kV Power Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
TL625	Bell Bluff Truck Trail	0	1	1	Minor Rural	2	--
	Campbell Ranch Road	0	1	1	PRD/Municipal/ Private Road	2	--
	Carveacre Road	0	3	3	Minor Rural	2	--
	Cinnamon Drive	1	0	1	Other Roadway	1	--
	Eagle Pass	0	1	1	Other Roadway	1	--
	Hidden Glen Drive	1	0	1	Other Roadway	2	--
	I-8	1	0	1	Expressway/Freeway	4 to 6	A-C
	Illahee Drive	0	1	1	Other Roadway	1	--
	Japatul Road	1	3	4	Collector Rural	2	A-C
	Japatul Valley Road	0	6	6	Collector Rural	2	A-C
	Larry Lane	0	1	1	Other Roadway	1	--
	Lyons Valley Road	1	0	1	Collector Rural	2	A-C
	Red Hawk Ridge	0	1	1	Other Roadway	1	--
	Sequan Truck Trail	0	2	2	Collector Rural	2	--
	Spice Way	1	0	1	Other Roadway	1	--
	Thyme Way	1	0	1	Other Roadway	1	--
	Viejas Grade Road	0	1	1	Collector Rural	2	A-C
	Wildwood Glen Lane	1	0	1	Minor Urban	2	--

69 kV Power Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
TL626	Boulder Creek Road	9	5	14	Collector Rural	2	A-C
	Daley Flat Road	0	1	1	Other Roadway	2	--
	Eagle Peak Road	1	0	1	Collector Rural	2	--
	Hoskings Ranch Road	0	1	1	Other Roadway	1	--
	Oak Grove Drive	0	1	1	Minor Rural	2	--
	SR-78	0	1	1	Collector Urban	2	A-C
	Sundance View Lane	0	1	1	Other Roadway	1	--
TL629	Boulder Creek Road	0	1	1	Collector Rural	2	A-C
	Buckman Springs Road	0	2	2	Collector Rural	2	A-C
	Cam Tres Aves	0	1	1	Other Roadway	1	--
	Cameron Truck Trail	2	2	4	Other Roadway	1	A-C
	Chris Lane	0	1	1	Other Roadway	1	--
	Church Road	0	1	1	Other Roadway	2	--
	Corte Madera Road	0	1	1	Minor Rural	2	A-C
	Deodar Trail	0	1	1	Minor Rural	2	--
	Guatay View Lane	0	1	1	Minor Rural	2	--
	Hamilton Lane	0	1	1	Minor Urban	2	--

69 kV Power Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
TL629 (cont.)	Hulburd Grove Drive	0	1	1	Minor Rural	2	--
	I-8	1	0	1	Expressway/Freeway	4 to 6	A-C
	La Posta Circle	0	2	2	Other Roadway	1	--
	La Posta Road	1	1	1	Collector Rural	2	A-C
	La Posta Truck Trail	0	1	1	Arterial Rural	1	--
	Lebanon Road	0	2	2	Minor Rural	2	--
	Maggio Drive	0	1	1	Other Roadway	1	--
	Manzanita Lane	0	1	1	Minor Rural	2	--
	Meadow Lane	0	1	1	Other Roadway	2	--
	Merrigan Fire Road	0	1	1	Other Roadway	1	--
	Miller Valley Road	0	1	1	Minor Rural	2	--
	Mizpah Lane	0	1	1	PRD/Municipal/ Private Road	1	--
	Nature's Way	0	1	1	Other Roadway	1	--
	Oak Grove Drive	0	1	1	Minor Rural	2	--
	Old Buckman Springs Road	0	1	1	Minor Rural	2	--
	Old Highway 80	3	5	8	Arterial Rural	2	A-D
	Pine Creek Road	0	1	1	Minor Rural	2	A-C

69 kV Power Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
TL629 (cont.)	Pine Valley Road	0	1	1	Minor Rural	2	A-C
	River Drive	0	6	6	Arterial Road	2	--
	Spargur Road	0	1	1	Other Roadway	1	--
	SR-79	0	1	1	Rural Minor Arterial	2	B
	Stagecoach Springs Road	0	3	3	Other Roadway	1	--
	Tecate Cypress Trail	0	1	1	Other Roadway	1	--
	Viejas Boulevard	0	2	2	Other Roadway	2	--
TL682	Calle El Potrero	0	1	1	Other Roadway	2	--
	County Highway S7/East Grade Road	2	0	2	Collector Rural	2	--
	Henshaw Road	3	1	4	Other Roadway	1	--
	La Jolla Truck Trail	0	1	1	Other Roadway	2	--
	Poomacha Road	0	1	1	Other Roadway	1	--
	Sengme Oaks Road	0	2	2	Other Roadway	1	--
	SR-76	2	13	15	Minor Arterial	2	B
	SR-79	0	1	1	Rural Minor Arterial	2	B
	Tribal Store Road	0	1	1	Other Roadway	1	--
	Valley Center Road	0	1	1	Collector Urban	2	--

69 kV Power Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
TL6923	Barrett Lake Road	0	1	1	Collector Rural	2	A-C
	Big Protrero Truck Trail	1	1	2	Other Roadway	1	--
	Lake Morena Drive	0	1	1	Collector Rural	2	A-C
	Round Potrero Road	0	1	1	Collector Rural	2	--

Sources: San Diego County, 2008 and 2011

Table 37: Public Roadways Spanned by 12 kV Distribution Lines

12 kV Distribution Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
C78	Red Oak Road	0	1	1	Other Roadway	2	--
	Viejas Grade Road	3	1	4	Collector Rural	2	A-C
C79	Boulder Creek Road	1	0	1	Collector Rural	2	A-C
C157	Skye Valley Road	0	3	4	PRD/Municipal/ Private Road	1	--
C440	Boiling Springs Road	4	0	4	Other Roadway	2	--
	El Centro Trail	8	0	8	Other Roadway	1	--
	El Centro Tract	1	0	1	Other Roadway	1	--
	Escondido Ravine Road	1	0	1	Other Roadway	1	--
	I-8	1	0	1	Expressway/Freeway	4 to 6	A-C
	Kitchen Creek Road	1	0	1	Arterial Rural	2	A-C
	Los Huecos Road	4	0	4	Minor Rural	2	--
	Morris Ranch Lane	0	7	7	Other Roadway	1	--
	Morris Ranch Road	1	0	1	PRD/Municipal/ Private Road	1	--
	Mount Laguna Drive	0	8	8	Minor Rural	2	--

12 kV Distribution Line	Roadway	Number of Times Spanned			Classification	Number of Lanes	LOS
		Within CNF	Outside CNF	Total			
C440 (cont.)	Piedra Tract	1	01	1	Other Roadway	1	--
	Sunrise Highway	10	1	11	Collector Rural	2	A-C
C442	Pine Creek Road	11	0	11	Minor Rural	2	A-C
C449	Buckman Springs Road	3	0	3	Collector Rural	2	A-C
	Corral Canyon Trail	1	0	1	Other Roadway	2	--
	Oak Drive	2	0	2	Collector Rural	2	A-C
	Old Highway 80	1	0	1	Arterial Rural	2	A-D

Sources: San Diego County, 2008 and 2011

Table 38: Existing Travel Volumes on Interstate and State Routes specifies average daily traffic and peak hour traffic levels for I-8, SR-76, SR-78, SR-79, and SR-94. Other roadways anticipated to be affected by the Proposed Action include a network of unnamed, unpaved access roads. Although portions of the CNF are not currently served by roads, the electric lines included in the Proposed Action are typically located within close proximity to existing access roads or unimproved county roads.

Table 38: Existing Travel Volumes on Interstate and State Routes

Intersection	Average Daily Trips	Peak Hour Trips
I-8	21,181	2,183
SR-76	4,766	480
SR-78	4,663	738
SR-79	14,525	1,885
SR-94	2,025	215

Source: Caltrans, 2009

I-8 is a major east/west transportation corridor that crosses through the Proposed Action area. It is a four-lane, divided freeway with a posted speed limit of 70 mph and would serve as the main access route to the Proposed Action area from both San Diego and Imperial counties. I-8 can be accessed via a number of on- and off-ramps. The ramps in the vicinity of the Proposed Action include Tavern Road, Alpine Boulevard/Willows Road, SR-79/Japatul Valley Road, Sunrise Highway, Old Highway 80, and Buckman Springs Road.

Secondary access to the Proposed Action area is possible via SR-76, SR-79, SR-94, Sunrise Highway, and Old Highway 80, which serve to connect the rural towns on the north and south sides of I-8. SR-76, a primarily west/east route, begins near the City of Oceanside and terminates at SR-79 between the unincorporated communities of Warner Springs and Santa Ysabel.

The segment of SR-78 that is located within the vicinity of the Proposed Action runs from I-15 near the City of Escondido to SR-86, passing near the unincorporated communities of Ramona, Santa Ysabel, and Julian. SR-79, a primarily north/south route, begins at I-15 near the City of Temecula, passes through Cuyamaca Rancho State Park, and terminates at I-8 near the unincorporated community of Descanso. SR-94, a primarily west/east route, connects the City of San Diego with eastern San Diego County and terminates at I-8. Sunrise Highway begins at I-8 and moves northward into the Laguna Mountains through Laguna Recreation Area. The primarily north/south highway terminates at SR-79 just north of Cuyamaca Rancho State Park. Old Highway 80, a primarily west/east route, begins near the town of Descanso, approximately 30 miles from downtown San Diego. This highway generally parallels I-8 until terminating near the border of San Diego and Imperial counties.

The Proposed Action is more likely to affect transportation facilities or increase traffic during the construction phase than during operation and maintenance, as typically only a very limited amount of surface activity is required to maintain a electric line. Further, the lines already exist

in the area and no increase in activity is expected once construction is complete. In addition, construction of the Proposed Action would not necessitate any permanent modifications to existing public roadways.

Prior to removing existing conductors or stringing new conductors, temporary crossing structures—typically consisting of either vertical wood poles with cross arms or staged construction equipment—would be installed or mobilized at crossings of energized electric lines, communication facilities, and/or major roadways to prevent the conductors from sagging onto other lines or roads during removal or installation. In some instances, construction equipment, such as bucket trucks, can also be used instead of temporary crossing structures to assist in conductor removal or installation activities. Traffic flow may be temporarily disrupted during the installation of crossing structures for approximately two to four hours at each location.

However, if the use of crossing structures is not feasible, temporary lane closures may be required to ensure public safety during conductor installation and removal. Where temporary lane closures are required, the lanes would generally be closed for 10 to 15 minutes during the stringing of each conductor, for a total of approximately three closures at each crossing, depending on the particular 69 kV power line segment. Segments TL625B and TL629E would be converted from single- to double-circuit configurations and would necessitate several closures of 10 to 15 minutes at each crossing in the event that lane closures are required. No complete road closures would be required.

To minimize traffic impacts, temporary lane closures would occur during off-peak traffic hours, to the extent practical, in order to minimize disruptions and traffic backups. Caution signs and/or flagmen would be used to regulate traffic where necessary and to maintain a safe transportation corridor during construction. In addition, emergency vehicles would be provided access even in the event of temporary road or lane closures. SDG&E would coordinate these isolated, temporary closures with local jurisdictional agencies, as required, to cross these roadways, and perform work according to agency requirements. SDG&E would also develop and implement a Traffic Control Plan during construction of the Proposed Action. The Traffic Control Plan would include a discussion of work hours, haul routes, work area definitions, traffic control and flagging methods, parking restrictions, and methods for coordinating construction activities with trainin service providers. As a result, traffic increases would be minimal and any impacts on transportation or traffic would be minor.

Proposed Action construction personnel would generally drive to the work site at the beginning of the day and leave at the end of the day, with few people traveling to and from the work site throughout the day. This would result in approximately two to four personal vehicle trips per day during peak construction times and would only slightly increase the existing daily traffic in the Proposed Action area. In addition to personnel travel, approximately four to eight truck trips per day would be required to construct the Proposed Action. Because the number of vehicle trips during construction would only slightly increase daily traffic, any potential impacts due to increased roadway use would be minor.

Helicopters would be used in part along each electric line included in the Proposed Action, particularly while removing or installing new structures and stringing new conductors in areas of rugged terrain, which would temporarily increase air traffic and encroach on navigable air space.

Consistent with SDG&E's current operational procedures, SDG&E would coordinate flight patterns with local air traffic control and the FAA prior to construction to prevent any adverse impacts due to increased air traffic. The Proposed Action would not be considered a potential obstruction to the FAA, as Proposed Action components would not exceed 200 feet in height.

10.6.1 Connected Actions

Impacts to transportation and traffic due to Connected Actions would be similar to those described for the Proposed Action.

10.6.2 Similar Actions

Impacts to transportation and traffic due to Similar Actions would be similar to those described for the Proposed Action.

10.7 VISUAL RESOURCES

The following section describes visual resources and potential impacts to visual resources resulting from the Proposed Action, Connected Actions, and Similar Actions.

10.7.0 Proposed Action

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that can be seen and that contribute to the public's experience and appreciation of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics, potential visibility, and the extent to which its presence would alter the perceived visual character and quality of the environment. As part of the Proposed Action, SDG&E would replace existing wood utility poles with steel poles, remove existing poles, and underground portions of existing distribution lines. In general, these activities would involve incremental and minor changes to a sparsely settled landscape.

For purposes of managing visual resources of lands within its jurisdiction, the USFS applies an inventory and assessment system known as the Scenery Management System (SMS). Adopted in 1995, the SMS establishes management goals to describe the level of modification associated with acceptable land use activity in a given area. These standards—or Scenic Integrity Objectives (SIOs)—range from "Very High," which is typically applied only to highly sensitive landscapes, such as wilderness areas or special classified areas; to "Very Low," a standard that allows land use activity that may appear dominant in relation to the natural landscape while not completely harmonizing with the natural setting. Only one SIO class applies to any given area, and an SIO does not necessarily represent current scenery conditions, but instead is a guideline for forest management objectives over time. The following four SIOs were used to evaluate the Proposed Action area:

- Very High: This SIO generally provides for ecological changes only, where the valued (desired) landscape character is intact with only minute deviations, if any. The existing landscape character and sense of place are expressed at the highest possible level. The landscape is unaltered.

- High: This SIO is used for landscapes where the valued landscape character appears intact. Deviations may be present, but they must repeat the form, line, color, texture, and pattern common to the landscape character so completely, and at such a scale, that they are not evident.

- Moderate: This SIO is used for landscapes where the valued landscape character appears slightly altered. Noticeable deviations must remain visually subordinate to the landscape character being viewed.

- Low: This SIO is used for landscapes where the valued landscape character appears moderately altered. Deviations begin to dominate the valued landscape character being viewed, but they borrow value attributes, such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed. They should not only appear as a valued character outside the landscape being viewed, but should be compatible or complimentary to the character within.

The USFS CNF Plan and Design Criteria for the Southern California National Forests contains policies for managing the SIOs that have been designated for areas within the CNF. At the Proposed Action level, all activities occurring within the CNF are subject to review of the SIOs. TL625, TL626, TL629, TL6923, and C440 cross land that is classified primarily as High with some Moderate. TL682, C79, C442, and C449 cross land that is classified as High. C78 crosses land that is classified as High, with some Moderate. C157 crosses land that is classified primarily as High with some Very High. In applying these standards to determine significance, the respective SIO visual management goal was considered, along with the fact that all of these lines currently exist and the extent of change to the visibility of the existing 69 kV power lines; the degree to which the various Proposed Action elements would contrast with or be integrated into the existing landscape; the extent of change in the landscape's composition and character; the number and sensitivity of viewers; and the Proposed Action's consistency with public policies regarding visual quality.

For the purpose of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. The Proposed Action would be visible from four scenic vistas—Inaja Memorial Overlook, Lake Henshaw Scenic Vista, Cuyamaca Peak, and Los Pinos Mountain. Visual simulations portraying changes to these scenic vistas and other views within the CNF are provided in Attachment F: Visual Simulations. The Proposed Action would result in a noticeable view improvement from the Cuyamaca Peak scenic vista because the existing overhead distribution line, C79, would be undergrounded. The Proposed Action would not substantially affect the existing visual character of the other scenic vistas because existing poles would be replaced by somewhat taller poles, which represents a minor incremental change. However, in order to reduce potential impacts to visual resources within the CNF, SDG&E would implement the following APMs:

- APM-AES-01: When construction has been completed, all temporary work areas will be restored to near pre-construction conditions in accordance with landowner agreements, in order to reduce potential visual contrast with the surrounding landscape setting.

- APM-AES-02: Construction activities will be kept as clean and inconspicuous as practical. Where practical, construction storage and staging will be screened from close-range residential views with opaque fencing.

- APM-AES-03: Non-specular conductors will be installed for new and replacement conductors along the electric line alignments in order to minimize the reflectivity and general visibility of new electric line facilities.

- APM-AES-04: New and replacement poles to be installed along the electric line alignments will be reddish-brown, weathered-steel that will appear similar in color to existing wood poles seen in the Proposed Action area and will blend in with the surrounding landscape backdrop.

Existing wood poles would be replaced with reddish-brown, weathered-steel poles that are somewhat taller. Like the existing structures, the replacement poles would appear against a landscape backdrop. Given the viewing distance and presence of existing structures, and because the color of the new poles would blend in with the landscape backdrop, the Proposed Action change would not be particularly noticeable. Portions of the Proposed Action would be visible from several eligible state scenic highways, including I-8, SR-76, SR-78, and SR-79, which are also San Diego County scenic routes. In addition, part of the Proposed Action would be visible from historic Old Highway 80; however, this roadway's historic designation does not preclude development. Views of some Proposed Action components would also be available from places along several San Diego County scenic routes, including Buckman Springs Road, Japatul Road, Lake Morena Drive, Lyons Valley Road, and Sunrise Highway. None of the Proposed Action components would be visible from a designated state scenic highway. If noticeable, the Proposed Action would generally represent a minor and incremental change that would not substantially affect motorists' views from these roadways.

To varying degrees, construction activity would be noticeable to local residents, motorists, and recreational visitors. Construction-related visual impacts would result from the presence of equipment, materials, and work crews along the 69 kV power line alignments, temporary staging areas and stringing sites. Construction activities would take place over an approximately five-year period, but this would be considerably shorter in duration at individual locations. Minor disturbances of land within and along the Proposed Action alignments would occur as a result of activity required for removing and replacing poles. In addition, minor land disturbance may occur at some of the temporary construction areas that would be established as part of Proposed Action construction; these areas would generally be located near or along existing Proposed Action alignments. A limited degree of visual contrast could occur as a result of land disturbance activity, such as creation of newly exposed soil areas along the alignment; however, implementation of APM-AES-01—which calls for all disturbed terrain along the Proposed Action alignment and at staging areas and stringing sites to be restored through recontouring and revegetation—would help the disturbed areas blend in with the surrounding landscape setting, thus reducing visual contrast and potential visibility of these areas. SDG&E would also implement APM-AES-02 to help ensure that construction activities are kept as inconspicuous as possible.

The majority of construction activities would take place during daylight hours; however, some construction along the Proposed Action alignment may be required or finished at night, and these activities would require lighting for safety. Any required lighting would be limited to an individual pole work area of approximately 314 square feet to approximately 1,256 square feet, and would not exceed more than two hours per evening for more than four evenings. No new permanent lighting is required for the Proposed Action. New electric line components could create glare due to their finish, however, which could introduce additional glare to the immediate surrounding environment. To minimize potential glare from the new electric line components, APM-AES-03 and APM-AES-04 call for the use of non-specular conductors and reddish-brown, weathered-steel poles, which have non-reflective finishes. Because the Proposed Action includes only incremental changes to a sparsely settled landscape—which contains existing electric lines, access roads, and other ancillary or appurtenant facilities—and with the implementation of the aforementioned APMs, any potential impacts to visual resources from the Proposed Action would be minor.

10.7.1 Connected Actions

Impacts to visual resources from Connected Actions would be similar to those described for the Proposed Action.

10.7.2 Similar Actions

Impacts to visual resources from Similar Actions would be similar to those described for the Proposed Action.

10.8 WILDERNESS AND RECREATION

The following section describes wilderness and recreation and potential impacts to wilderness and recreation resulting from the Proposed Action, Connected Actions, and Similar Actions.

10.8.0 Proposed Action

The Proposed Action is located within the CNF, which consists of more than 567,000 acres and contains a variety of terrains and recreational opportunities. Recreational activities in the CNF include camping, horseback riding, mountain biking, picnicking, scenic driving, and hiking. There are four congressionally designated wilderness areas within the CNF, two of which are located within the vicinity of the Proposed Action. The two wilderness areas located within the vicinity of the Proposed Action are Pine Creek Wilderness Area and Hauser Wilderness Area, which are managed with the goal of preserving their primitive wilderness characteristics. The two wilderness areas were designated as wilderness in 1984 pursuant to the California Wilderness Act of 1984.[17] TL625 is located approximately 1.7 miles west of Pine Creek Wilderness Area, and TL6923 is located approximately 0.1 mile south of Hauser Wilderness Area. In addition, C157, which was originally constructed between 1920 and 1960, crosses both of these wilderness areas, which were designated in 1984 after the distribution lines and ancillary facilities were already in place. All of these lines are valid existing rights and uses under USFS Manual Section 2320.5. Approximately 0.53 mile of C157 is located within Hauser Wilderness

[17] *See* Pub. L. 98-425, Title 1, § 101(11) (Hauser Wilderness), § 101(20) (Pine Creek Wilderness) (September 28, 1984).

Area, which encompasses approximately 13,000 acres. Recreational activities within the wilderness area include hiking, backpacking, climbing, kayaking, canoeing, rafting, horseback riding, bird watching, and stargazing. Approximately 0.14 mile of C157 is located within the Pine Creek Wilderness Area, which encompasses approximately 7,547 acres. Recreational activities in Hauser Wilderness Area include hiking, backpacking, climbing, kayaking, canoeing, hunting, horseback riding, bird watching, and stargazing. The Proposed Action includes wood-to-steel replacement of the existing wood utility poles along C157 and is proposed as a fire safety measure, consistent with authorizing statutory authority contained in both the Wilderness Act and the California Wilderness Act of 1984. These provisions state that the Secretary concerned may take "such measures as are necessary in the control of fire, insects and diseases, subject to such conditions as he deems desirable."[18] Any associated impacts from the Proposed Action would be expected to occur during construction activities, would be short-term and temporary in nature, and would improve the existing condition from a fire safety perspective, consistent with the CNF Plan. As described in Section 4.0.0 Pole Installation, approximately 10 existing wood poles would be replaced with steel poles within these wilderness areas, resulting in temporary impacts of approximately 0.09 acre and permanent impacts of 0.00072 acre (approximately 40 square feet). As a result, any potential impacts to wilderness areas resulting from the Proposed Action would be minor.

Pole replacement and conductor stringing activities could also result in temporary restrictions of recreational activities elsewhere within the CNF in limited areas when new or existing poles are located within or adjacent to recreational facilities, such as trails or campgrounds. Other recreational facilities within the vicinity may be utilized in the event of unlikely temporary trail or campground closures, which could potentially increase the use of such recreational facilities and result in greater physical deterioration than was previously experienced. However, as restrictions would be temporary and short term, generally lasting approximately one to two days per recreational facility, impacts would be minimal.

Operation and maintenance of the Proposed Action would not change from those activities already occurring along the existing lines. After completion of construction, the electric lines would be operated and maintained by SDG&E at existing staffing levels and no additional staff would be hired to maintain the electric lines. Operation and maintenance activities would not result in an increase in local population in the vicinity of the CNF or in the usage of the CNF; therefore, the use of existing recreational facilities would not be increased, no additional deterioration of such facilities would occur, and no additional impacts from operation and maintenance would occur.

10.8.1 Connected Actions

No Connected Actions are proposed within wilderness areas. Pole replacement and conductor stringing activities during Connected Actions could result in temporary restrictions of recreational activities outside the CNF in limited areas where new or existing poles are located within or adjacent to recreational facilities, such as San Diego County trails. Other recreational facilities within the vicinity may be utilized in the event of unlikely and temporary trail closures,

[18] Pub. L. 98-425, Title 1, Section 103(b) (September 28, 1984). *See also* 16 U.S. Code Section 1133(d)(1) (special provisions for authorized uses in wilderness areas); Forest Service Manual 2326.1.

which could potentially increase the use of such recreational facilities and result in greater physical deterioration than was previously experienced. However, as restrictions would be temporary and short term, generally lasting approximately one to two days per recreational facility, impacts would be minimal.

As previously discussed, operation and maintenance of those portions of the electric lines included as Connected Actions would not change from those activities already occurring along the existing lines. Therefore, no additional impacts from operation and maintenance would occur.

10.8.2 Similar Actions

No Similar Actions would be conducted within wilderness areas. Pole replacement, undergrounding, or conductor stringing activities during Similar Actions could result in temporary restrictions of recreational activities outside the CNF where new or existing poles are located within or adjacent to these recreational facilities, however. In the event of unlikely temporary closures, other recreational facilities within the vicinity may be utilized, potentially resulting in greater physical deterioration than was previously experienced. However, as restrictions would be temporary and short term, impacts would be minimal.

As previously discussed, operation and maintenance of those portions of the electric lines included as Similar Actions would not change from those activities already occurring along the existing lines. Therefore, no additional impacts from operation and maintenance would occur.

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ATTACHMENT A: DETAILED ROUTE MAPS

ATTACHMENT B: MSUP OPERATING PLAN

ATTACHMENT C: TYPICAL DRAWINGS

ATTACHMENT D: ELECTRIC AND MAGNETIC FIELDS

ATTACHMENT E: CONSTRUCTION EQUIPMENT SUMMARY

ATTACHMENT F: VISUAL SIMULATIONS

APPENDIX A: SDG&E NCCP PROTOCOLS